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ABSTRACT

A case study of 16 companies in the Greek textile and clothing industry elicited the training needs of the industry's middle managers. The study concentrated on large and medium-sized work units, using a lengthy questionnaire. The study found that middle managers increasingly need to solve problems and ensure the reliability of new equipment and that to do so they need an adequate overall knowledge of the machinery and a theoretical background. Training on Greek textile machinery is often provided by foreign firms who supply the machinery, either in the Greek plant or abroad. However, Greek middle managers need greater technical background in order to benefit from such training and to provide assistance to the employees under them. Middle managers, therefore, need an overall picture of production and production procedures, thorough knowledge of the mechanical equipment, and knowledge of accounting and the organization of production. Some firms are trying to decentralize and delegate more tasks to middle managers, requiring them to understand how their areas affect the whole company. Few technical schools have effective links with manufacturers, so their graduates are not adequately trained. Better links between manufacturers and technical colleges and better equipment for the colleges would improve the training of middle managers. (Appendixes to the report contain 14 case studies and the project questionnaire.) (KC)

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Technical training requirements of middle management in the Greek textile and clothing industries

European Centre for the Development of Vocational Training

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Technical training requirements of middle management in the Greek textile and clothing industries

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Foreword

The present study looks into the current needs of middle management in the textile and clothing industry in Greece, Spain and Portugal and examines ways and means of fulfilling these needs within a ten-year prospective.

It forms part of the second series of reports undertaken within the study project on these two sectors. In all, nine studies have been commissioned to describe vocational training demand and supply and to investigate possibilities for the transfer of know-how both at national and Community levels.

It was decided to examine the training needs of middle management, who play a keyrole in the sectors and bear responsibility for a multitude of tasks ranging from those of a specialized worker to complex managerial duties, depending on the size and policy of the undertaking concerned.

The general introduction of new technologies in production, warehousing and distribution, has led to a change in the relationships between the sub-sectors, making them more interdependent. Middle level staff are now required to undertake tasks and initiatives and assume responsibilities which differ from their traditional role of guiding and supervising small groups of workers independently operating within the enterprise.

Moreover the role of middle management staff is becoming increasingly important in that they are required to ensure the smooth operation of highly sophisticated systems and machinery employing new technologies on the shop floor.

In Greece, Spain and Portugal, the shortage of specialized, trained staff at this level means that even greater importance is attached to the updating and adapting of middle management in order to fill the existing gap in their practical and theoretical knowledge.

In these three countries, middle management has the advantage of having acquired considerable work experience, having formerly worked under and together with master-craftsmen in the trade, a factor which should not be neglected. However, they do not possess an adequate theoretical knowledge and consequently are unable to use to the full advantage the equipment and facilities at their disposal.

This situation is aggravated by the recruitment and staff development policies pursued by various enterprises.

Whilst it is acknowledged that training is an important factor in overcoming the shortage of staff specialized in new technologies, there is only a limited supply of appropriate training.

The introduction of new technologies in firms is followed by the movement of the staff, by redundancies and only a low level of recruitment. In-firm training programmes are rarely appropriate in that the majority only provide the workers with a limited, superficial view of the functioning of the equipment with which they are to become familiar.

The reader will see that we have given some attention to the definition of middle management in these two sectors. The European Community sees middle management as corresponding to level three of the SEDOC qualification scale. However, in view of the real relationship between the tasks and the qualifications of middle management in these two sectors and in the three countries, this classification does not apply here.

In an effort to find a more realistic approach, we chose a number of functional criteria to define the characteristics of middle management in the textile and clothing industry in Greece, Spain and Portugal.

The reader will identify similarities in the situations existing in these three countries and will see that common training needs exist, for example the improvement of the general education level, the learning of foreign languages, training in electronics applications/computer operations as related to the sector.

The searching for solutions to fulfil these needs, is, however, appropriate to the situation of the sector in each national context. Attention has been given to ensure that such solutions are complementary to existing provisions.

Although the terms of reference for the three groups were the same, the methods applied in practice differed as a result of technical difficulties to constitute an appropriate sample.

Nevertheless the definition of needs and the short and medium term solutions proposed, do, we believe, respond to the real situation in each country.

The reports aim at promoting the design and realization of training programmes. In this way it is hoped that the studies will contribute to the general effort to restructure the textile and clothing sector in the three countries.

Tina Bertzeletou Project Coordinator	Corado Politi Deputy Director

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INTRODUCTION

1. THE INDUSTRIES

Despite the relative fall in its rate of development over the last decade, the Textile Industry still constitutes a primary Greek Industry. In 1984 it employed 65,435 persons, i.e. 9.4% of the total industrial work force, compared to 78,378 in 1979 (11.7%). The most important sector was the cotton goods industry (yarns and fabrics), which employed 24,023 persons. The knitwear sector also features significantly, employing 16,263 persons, or (24.9%) of the total number.

The make-up of the industry is characterised by the existence of a large number of smaller units, particularly in the knitwear sector. Thus in 1984, 82.3% of the units had an average annual employment figure of less than 10 persons. On the other hand, the industry also had several large units by Greek standards. To be specific, in 1984 it had 54 concerns, which employed over 200 staff. Viewed in terms of location, 45% of the textile industry's enterprises are established in the Athens District. Since 1970, however, a significant tendency towards decentralisation is noticeable, especially with the larger units. For example, a significant number of large units is today established in Macedonia.

The Textile Trade has been one of the traditional sectors of Greek industry and was initially developed in the years between the wars. It relied to a large extent on Greek cotton and the advantage of comparatively cheap labour. Until about the end of the 1960s it was aimed primarily at the domestic market, having achieved a high degree of success in replacing imported goods. During this period, however, a marked change took place in the industry towards the export market, chiefly to the EEC. This change is accompanied by a significant acceleration in the industry's rate of development, as well as a striking wave of investment, which lasted until the middle 1970s. This change chiefly concerns making use of a gradual reduction in taxation in respect of EEC countries within the framework of the Agreement for Greece's Accession to the EEC.

Once these margins of opportunity had been exhausted towards the middle of the 1970s, the industry started to show signs of fatigue, whilst at the same time competition started to get keener from countries with low labour costs. This fact is linked to Greece's intermediate market standing, in common with Spain and Portugal, from the point of costs in the international distribution of work. This fatigue started to assume critical proportions during the first half of the 1980s. Characteristic of this is the significant drop in employment figures within the industry, which occurs between the 1978 and 1984 censuses. Similarly, based on a start level of 100, the production index for the industry fell from 100.5 in 1981 to 92.0 in 1984 and only reached 102 in 1986. Finally, based on the records of Limited Companies in the sector, the outflow of cash during the period 1981 - 86 is by and large in decline, although significant trends contrary to the norm are noted in certain sub-sectors and at certain periods.

A detailed description of the factors which led to this crisis is in any case outside the ambit of this study. However, the problem of the work force seems urgent especially where it concerns management. As will be explained in detail below, changes in production procedure and technology within the industry are radically altering the role of Middle Management, resulting in the emergence of an imbalance between the present work-force and its ability to respond to current requirements.

The clothing industry also constitutes one of the basic sectors of Greek industry where employment is concerned. In 1978 it had 66,686 employees, and in 1984, 72,655. It increased at a high rate after the middle-1970s at the same time as a substantial volume of production went to the EEC. These exports are for the most part "facon" (making-up) exports intended for West Germany.

This sector too is dominated by small and medium sized work units, which allows it both flexibility and adaptability. This however, has an adverse effect on organisation of production, product-design, sales and productivity. We also note that the considerable growth in the sector during the last decade is linked to the launching of new enterprises, primarily in Northern Greece, but also in other areas where there are high investment initiatives. Many of these enterprises offer work in their own areas, which can be done at home, chiefly by the female population.

Finally, we also note that in this sector there are significant deficiencies in specialist personnel, up-to-date machinery and also managerial staff.

To conclude, it is no exaggeration to say that not only does no system of technical training exist, neither has any idea been formulated as to the main elements such a system should comprise for these industries. A second problem connected with the requirement for Middle Management training is the great diversity of sizes of the various enterprises in these sectors. This factor greatly complicates the production of a "formal organisational plan" and the collation of firm conclusions.

2. STUDY METHODOLOGY

The following methodology was used in approaching these problems:

a. The study concentrated on larger and medium-sized work units. These units are sufficiently diversely organised to permit some consideration and discussion of their Middle Management.

b. A total of 16 Firms in this category were considered, several of which have more than one factory, and cover the whole range of the sector's activities. By using a lengthy questionnaire, a copy of which is attached at Annexe 'B', these Firms were analysed as "current case studies". A detailed breakdown of 14 of these 16 Firms is given at Annexe 'A', whilst the conclusions drawn from the other two are contained in the main body of the study.

The criteria employed in assessing these Firms were:

(i) as far as possible the various sub-sectors and products in each sector were completely covered;

(ii) differentiation according to size (both large and medium-sized units were covered).

(iii) differentiation according to location of establishment (units in Attica and the surrounding area).

(iv) differentiation according to the age of the equipment.

(v) breakdown into public and private Firms.

(vi) breakdown into economically viable concerns and units with problems.

The following table lists the Firms, together with the goods they produce. Further details in respect of each enterprise are given at Annex 'A'.

FIRM	PRODUCT
A	YARNS, FABRICS & KNITWEAR
B	COTTON YARNS
C	COTTON & WOOLLEN YARNS CHIEFLY FOR KNITWEAR
D	VERTICALLY INTEGRATED UNIT (GINNING TO CLOTHES)
E	COTTON YARNS-FABRICS
F	PROCESSING COTTON-MIXTURE FABRICS DYEING & FINISHING
G	FABRICS, SHEETS, TABLECLOTHS ETC
H	WOOLLEN YARN, WOOLLEN FABRICS, CASHMERE
I	COTTON & MIXTURE YARNS (OPEN END)
J	SYNTHETIC SILKS & YARNS
K	FABRICS, PILLOW-CASES, SHEETS, COUNTERPANES DYEING & FINISHING
L	READY-MADE CLOTHES (JACKETS, TROUSERS)
M	READY-MADE CLOTHES
O	IMPORTED TEXTILE MACHINERY

C. In order to support the basic conclusions which resulted from this analysis, short questionnaires were sent out to a representative 120 Firms. Response to these questionnaires was, unfortunately, poor:

Less than 10% of the letters sent out were answered, and those, incompletely. The answers, however, largely confirmed the conclusions that had been drawn.

d. In justification of the conclusions we chose to mention, it should be stated that we worked closely in conjunction with the various sectors of the Textile and Ready-made industries and majority of our conclusions has, in principle, been substantiated. We have also incorporated in the study some of the observations made by Company representatives.

e. The method of technical training has been examined and the main observations are summarised in Chapter 1 of the study.

We would like to thank the following Agencies for their cooperation:

1. The Panhellenic Association of Knitwear Manufacturers & Technicians
2. The Association of Wool Manufacturers
3. The Panhellinic Union of Textile Industry Technicians
4. Federation of Textile Manufacturers of Greece
5. The Association of Ready-made Clothing Manufacturers
6. The S.E.B.
7. The Association of Textile Industry Scientists
8. The Techical Lyceum for Weaving, Spinning & Knitting
9. The Technological Training Corporation of Piraeus.
10. Organisation for the Restructuring of Businesses.

11. OAED.

12. Representatives - Greek Importers of Textile Machinery.

CHAPTER 1

THE CURRENT SITUATION

1.01 TECHNOLOGICAL DEVELOPMENTS

We will start by attempting to describe the major tendencies for change in the organisation and the distribution of labour, which have come about as a result of recent technological innovations, or which are still under development in the Textile and Ready-made Clothes Industries. These factors, which change the nature of the work, first require an understanding of the responsibilities and the need for technical knowledge on the part of those who supervise or use the new mechanical equipment. We certainly do not intend to describe in detail all these technological changes, which can be found listed elsewhere. The chief points to be made are as follows:

1. The type and mode of machinery, and even the materials used in its manufacture, are changing constantly but progressively. The importance of electronic parts as opposed to strictly mechanical ones is constantly increasing. These electronic parts comprise indivisible constituents, which are not repairable, but are replaced in the event of damage. A corresponding tendency is also seen in the case of purely mechanical parts. The main

problems which occur in the Company do not concern the repair of parts on the spot, but the fitting of electronic and mechanical components and the correction of errors in programming.

The above trends change the nature of the technician's involvement throughout the whole unit. The significance of the term "master"- mechanic is greatly diminished, where with only a working knowledge of the structure and configuration of the machine, he can locate the fault as well as rectify it. In order to solve the problems and, above all, to ensure total reliability of the equipment, an adequate overall knowledge of the machinery is required, and this should be complemented by adequate theoretical grounding.

2. In almost every case the machines have large powerful regulators. Whilst this increases productivity and improves the quality of the products, it also cuts down the need for human involvement, operating skill, and careful observation. On the other hand, it imposes greater demands on the training and competence of the Middle and Senior Staff, who supervise the immediate users.

The ever-increasing capability of the machinery to trace problems and errors, which occur during the course of production, is leading in the same direction.

3. The increase in speed of production, e.g. with the importation of "OPEN END" systems, certainly leads to an increase in efficiency. On the other hand, it also adds to even the slightest escalation in production costs; makes the production of small quantities of centralised goods less viable; and in general leads to a greater degree of specialisation in units, by limiting their flexibility. At the same time, because of the high level of investment needed, such "ancillary" requirements as the evaluation of primary and secondary products or the conservation of energy etc, all gain in significance. In addition, the cost caused by error is greatly increased, because of the much greater quantity of yarn or fabric which is ruined.

4. Larger production units are being continually integrated and their production lines extended. For example, the preliminary weaving stages are now all integrated and the looms, automated. This means that a number of jobs involving transfer of materials and intermediate products, and machine work such as bobbin-changing, have all become redundant.

The greater the degree of integration, the greater the increase in production rates mentioned above, and the greater the demands for quality control of raw materials and intermediate products, in order not to interrupt the flow of production, and not to "transmit" any fault from one department to another. This is achieved either by checks using a central machine, or else by instruments fitted within each machine.

Generally speaking the nature of the industries, especially the textile industry, is heading steadily towards greater capital investment. The rate of production tends to be determined by mechanical equipment, rather than by the work done.

This leads to a significant change in the role of the Middle Management. New demarcation lines are drawn between them and their subordinates. Thus their role as the 'leaders' or 'first amongst equals' is drawing steadily to a close and emphasis is being laid more on those areas which involve supervision and machine operation. The Middle Management are adopting very formal styles of managerial behaviour towards their subordinates, which certainly shows that some form of "management training" is needed.

Furthermore integration of the production departments is increasing the requirement for the Middle Management to have the capacity to solve all problems in the production process, - for example, knowledge of the characteristics of the raw material being used, - rather than a specialist knowledge of the machines in the department where they are employed. This also requires some knowledge of the costings side of production and continually trying to find ways to improve productivity.

5. The above observations are supported by the fact that with the more widespread use of computers for both production and supervisory functions, there is an obvious tendency towards integration of the Firm's various operations.

A typical example here is that of the dyeing processes, where the Firm's existing stocks and general financial targets affect the choice of colours and colour-combinations. Here too, although production is made easier, the need arises for both Middle and Senior Production Management to have a fuller knowledge of financial administration, marketing, costing, and the technical and financial organisation of the overall production process.

6. We would especially like to point out certain developments, which are relevant to product design. In particular, the technical part of design-printing for looms and weaving-machines takes place away from the machine (CAD or computer assisted design) and is fed into the machine in the form of an electro-magnetic disc, tape or punched-hole system. After the disc has been placed in the machine

it carries out the production process according to the design. As is known, this system allows the design to be changed easily and quickly without the need for intervention by specialist mechanics. Here at last we see the appearance of new specialisms, which directly concern the use of CAD and which partially centralise operations in the field of production.

Finally, an important characteristic of present-day technology is the relatively fast rate of technological development in the extended application to the Industry of Information Technology and micro-electronics. This means that personnel are needed, who not only have the ability to assimilate the workings of a specific type of machine, but who can adapt themselves to change, and assess their own best form of training.

II. PROBLEMS IN USING THE NEW TECHNOLOGY

Let us now look at the areas where technical problems have been caused in the production field by the new technology.

1. INSTALLATION

The installation of a new machine, getting it started, and operating it in the early stages, are the first problems which arise. Initially the foreign firm of machine manufacturers is responsible for solving these. In fact the foreign firm sends its own technicians to Greece at the same time as the new machines, in order to ensure their correct installation and to avoid incorrect use and consequent damage. Here we should mention certain types of situation, which immediately occur involving the manufacturing Firm and the Greek Company.

a. The duration of the foreign technicians' stay varies. Sometimes it corresponds to the time required for the installation and initial operation of the machines. On other occasions it is extended so that the Greek Company personnel can be trained and usually so that the Greek technicians can be thoroughly briefed on any problems created by the technology.

b. Greek Textile Industry technicians visit the manufacturing Firm and are trained on the new machines that their Company has bought. As a rule, the Greek Companies try to avoid the high cost of training their personnel outside Greece. Thus, usually only the big Companies choose this method, - the best form of continuation training, - and then only for those personnel they are sure will not "desert" them. It is also chosen by those small family concerns, which see the chance of training members of their family, without any danger of "losing" them.

We also have to point out two common problems, which occur in these circumstances. (i) The language problem. The Greek technicians need to know a foreign language in order to communicate with the foreign technicians, even though the instruction is in often in Greek. (ii) The information put over is restricted to specialist technical knowledge and to familiarising the trainees with the machines that have been bought, rather than briefing them on general technological problems. We cannot, however, comment on the more detailed continuation training of personnel.

2. PROGRAMMING & REGULATING THE MACHINES

The next point concerns programming and regulating the machines. The Greek technicians are responsible for this, although during the early stages of installation they are assisted by representatives of the foreign Firm, who often, at least initially, have equal responsibility. Here, it must be added that the Greek technicians have to be able to read a foreign technical plan, in order to use it in their work.

3. PRODUCT DESIGN

The programming of new electronic machinery assumes the existence of designs, which have been recorded by electronic means. These are either prepared by the manufacturing Firms and purchased with the machines, or the importers of the textile machinery undertake to copy the designs needed and sell them to the purchasers. In fact, Greek machine representatives have formed their own group of technicians, which usually transcribes and prepares the required designs and copies them onto an automatic data storage system. In yet a third situation, specialist offices undertake the copying and transcription of designs and their transmission to the manufacturers ready for use in the production process. Generally designs for the textile and knitwear trade constitute a common area of requirement for units and sectors, with the exception of those in the "facon" (making-up) sector. It is concluded that the ease with which designs can nowadays be produced by modern methods and the facility with which they can be transfered to the machine, permit a high degree of speed and adaptability to market requirements, preferences, and characteristics. This is combined with flexibility and accuracy.

4. USE OF THE MACHINES

The foreign technicians train the personnel who are going to operate the new machines directly. They also train indirect users (management, technicians) who will later pass on the knowledge to other machine-users. Here again the problems of language and new terminology crop up. Furthermore, when technological information is passed on by persons who are not specialist instructors, it rarely amounts to more than a display of technical ability. The information is consequently conveyed in an increasingly rigid fashion as the training goes on, with the result that the last in the chain acquires only fragmented information.

5. MAINTENANCE

Responsibility maintenance by prior arrangement with the Firm of manufacturers is a problem which is sometimes dealt with in a responsible way, and sometimes neglected by the Greek Firms in the Industry. Incomplete or non-existent maintenance of machines means lower productivity, poorer quality, more frequent faults etc.

Not infrequently manufacturers choose to entrust the maintenance of their machinery to a representative of the importers outside their own Firms. Although this costs a considerable amount (10% of the cost of the machine for an annual service) it seems to satisfy them at present rather than training their personnel abroad. Another "solution", which we encountered is the "roving" electrician, who undertakes both the servicing and care of the electronic equipment. These technicians are electricians who have experience in the specific problem areas, which the different industries have found they regularly encounter.

6. FAULTS

Faults are an inherent danger in the purchase of any new machine. It is true that bad maintenance, lack of technological knowledge, and clumsy handling increase the dangers.

The large Firms make use of a team , which looks after the maintenance and to a great extent any faults on their machines. They also have the opportunity to communicate directly with the foreign firms about any problems which come to light during the course of production; - what is usually called an " open line of communication"

Generally the large textile firms try to solve the problem of faults either (i) through contact with the foreign production house, (ii) from within their own resources or (iii) by using the foreign technicians they regularly have in their factories. We should point out that the method of solving the problem will depend on whether the fault or problem occurs in the mechanical or the electronic part of the machinery. The Firms' representatives explained that the manufacturing firms avoid giving out detailed plans of the electrical part of the machinery for fear of their being reproduced. Because these parts are usually small in size, they can easily send them back for repair to the foreign firm.

In conclusion, the large firms undertake to correct faults using their own technical knowledge and maintain contact with the foreign firms on a fairly permanent basis. On the other hand the smaller firms try to solve their problems by ad hoc means and usually give them to the Greek machinery representative, and pay a substantial price for their lack of technical knowledge.

III. MIDDLE MANAGEMENT

As with similar studies for other countries in Southern Europe, great difficulty was encountered in establishing the exact meaning of the term, Middle Management. According to the CEDEFOP definition, Staff at Level 3 have more or less independent responsibility for tasks involving programming and coordination of labour. They are also responsible for arranging the technical training for at least secondary level staff after the compulsory training level.

The first serious problem is the imbalance existing between the Management's position of responsibility and their professional training. The status of these grades in production rather than their professional training is considered as the prime criterion. However, this criterion cannot be demandeded equally for all the units of this category. Important similarities appear in respect of:

(1) the size of the Firm: the bigger enterprises have more clearly defined distribution of labour than the smaller ones, with more clearly defined tasks for the whole of the firm's work-force.

(2) the duties of Middle Management differ according to the sector and the goods being produced.

(3) the ability of the "Middle Management". This very often dictates the nature of their responsibilities. The more able Middle Management take more responsibilities upon themselves.

(4) the actual laid-down policy of each Firm, especially in the case of a major enterprise.

The absence of any clear definition of Middle Management is allied to the nature of Greek industral organisation in general. The problem of finding qualified, specialist personnel; the continuing family nature of the big Firms; and their individual policies, have all led to a centralised type of management and administration. Positions of responsibility amongst the Middle and Lower Management have consequently been diminished. Especially during the Textile Industry's great expansion at the end of the 1960s, which was accompanied by significant geographical decentralisation, the Firms had to rely on Staff with minimal training, who had usually worked in the trade for a long time, but who had no theoretical knowledge. This added to the centralised nature of organisation, although at the same time no adequate policy definition of Management was formulated at either national or Company level.

Middle Management in production comprises shift supervisors, departmental supervisors, shift foremen, production foremen in the ready-made trade, and technicians working in the maintenance and fault repair section. In the big Firms these latter groups are separate from the groups responsible for the maintenance of air-conditioning units and other installations, not directly linked to production. In fact, the large Firms make a distinction between the Middle Management directly employed in the production process, and those doing ancillary work, which is only indirectly involved with production.

Let us now look in more detail at what the tasks of the Middle Management usually comprise.

1. As was described above, during the installation of new machinery, as many people as possible observe the foreign technician. Middle Management are usually included. Knowledge of the foreign language and terminology are indispensible here, although comprehension is often achieved by miming. Where the operation and regulating of the machinery are concerned, responsibility differs from firm to firm and between the various categories. Often the relevant responsibility and initiative are left with the supervisor or production manager and the shift supervisor merely watches. Even where he has responsibility for regulating the machinery the initiative

remains with his superiors. Here again the technicians have to be in a position to understand a foreign language and its technical terminology as well as a technical plan.

As regards maintenance, Middle Management is given additional responsibilities as well as the initiative. Where faults occur responsibility is shared with their superiors in the Company, as well as with external specialists.

Let us now examine the role of Middle Management in technical organisation, production programming and increasing productivity. Here our survey shows wide differences. There are some Firms where Middle Management either fail to participate at all in these procedures, or else have only a limited responsibility, In others they appear to have both the initiative and the responsibility. This can largely be explained by the fact that in matters of technical organisation and productivity they need to have:-

a. an overall picture of production and knowledge of production procedure, from the characteristics of the raw material right up to the final product.

b. thorough knowledge of the mechanical equipment.

c. knowledge of accounting and the organisation of production.

In short, we can say that in this field the fullest technical and economic knowledge of production are required, and these are lacking not only in Middle, but also in Higher Management in these sectors.

A second point is that Companies which escape from the centralised nature of Greek Industry and try to give full responsibility to their Staff are few and far between. The normal rule is for the technical manager and the general management to have the overall techno-economic production picture. This is certainly contrary to the current technological potential, which constantly puts Middle Management in positions of overall supervision and control. Despite this, there are enterprises which are trying to assess and train their Middle Management in this direction, i.e. by letting them build up an overall picture and by giving them full responsibility for production and allowing them to use their own initiative.

More specifically, the big Firms are trying to involve their Middle Management in all the Firm's problems in the following two ways:-

1. During the period of their training Middle management are briefed not only on what affects the specific tasks of the actual job they are to assume, but also generally on the technology in this sector as it affects the whole factory.

2. During weekly conferences, Middle Management are briefed on the Firm's problems in general and their views invited.

In conclusion we can therefore say that, despite all the weight of technology and the recognition at top level by Companies of the need for wider skills and knowledge on the part of Middle Management, it is still typical of most Companies that they continue to be extremely centralised.

In other words not all tasks, responsibilities, and information are delegated; some are still centralised at the top. This was also confirmed by the answers given to questions relating to the involvement of the Middle Management in the organisation and distribution of labour within the Company, and their role in engaging Staff, profits, incentives, assessments and dismissals of employees. On these points Company representatives did not show that they regard the delegation of responsibilities "downwards" as essential to the

Firm's managerial structure, despite their having mentioned the need for Middle Management to know how to treat, organise, and negociate with Staff.

On this point, therefore, there appears to be conflict between the general "desire" and actual practice in the Companies. We have to point out that such matters as recruitment, salary levels, incentives, dismissals and assessments of Staff are considered to be the province of General Management, even though suggestions by the Middle Management are often taken into consideration. On the other hand, differences in salary scales and incentives between Middle Management and the rest of the Staff are common to all the Firms we examined.

Let us now consider the level of training of Middle Management. From the start we must say that a diploma does not automatically raise a presumption that a person will be engaged by a Greek textile Firm, despite the fact that it is regarded as an additional qualification for an employee. However in all the cross-section we examined diplomas of Lower and Intermediate Technical Colleges are to be found in the Middle and Higher Technical grades , whilst as a rule there are no Technical College graduates amongst the direct work-force. In our cross-section we only found very few graduates of the Textile Industry's "TEI", although there were graduates of the former "SKYP" and the present Technical Lyceum for Spinning, Weaving and Dyeing.

All the Company representatives stated that the information given in existing technical schools is inadequate and remote from the requirements of modern technology. Consequently the task of keeping up with, adapting to, and disseminating technical knowledge falls on the Company.

Let us now analyse the methods of training and updating Middle Management in the Textile Companies.

A. Training in conjunction with the purchase of new equipment

1. A representative from the foreign firm manufacturing the machinery trains all those personnel who are to work directly or indirectly on the new equipment. This training usually lasts for a very short space of time.

2. The Company sends its Staff to the firm supplying the equipment after each purchase. Here the "continuation training" has to be based on some pre-arranged technical knowledge if it is to be effective, because the information which is given in these circumstances is limited and concerns the current purchase of machinery.

3. Greek machinery representatives carry out the training of Company technicians working with them in specially designated areas. This method of training of technicians is relatively new and the instructors are technicians who have received training abroad on their own imported machines. We can say that this attempt by the importers of machinery to organise the supply of services and technical information about imported machinery is aimed, on the one hand, at covering the gap in up-to-date knowledge existing in Greek technical training, and on the other, at assisting the mainly small and medium-sized enterprises, which have only limited financial resources to train their personnel abroad.

B. Training without the purchase of new machinery

1. Internal training policy, whether involving the purchase of machinery or not, is another means of adapting Middle Management to new technology. Here we find varying degrees of systemisation in the programmes, which are intended to train the whole of the Firm's hierarchy in methods of production, quality control, management and costing methods etc.

The rationale behind these partially systematised attempts is total modernisation of the Firm. Here, however, as in all similar training programmes arranged from time to time at OAED, the problem is just how practical and effective is the tuition. This is for the following reasons: the instructors are not teachers, in the sense that they know how to put across all the organised technical information; they have no simple technical language; they do not use manuals, and they frequently make arbitrary decisions about what is important and what information should be given in the tuition.

2. The bigger concerns not only send their Staff abroad to the manufacturing Companies, but also to study at foreign technical schools. Here there is a definite danger that after their return to Greece, the Staff who have been trained will prefer to seek employment in a different Firm with better working conditions. Another difference in the method of training is where the actual tuition takes place. In some cases it is carried out at the place of work. This is the customary method. New arrivals learn at the side of an experienced technician or machine-user. However this personal dependence in training gives the trainer the opportunity

to select exactly what information is to be put over and to keep "technical secrets" to himself, so that he can keep a potential future rival in check.

A second possibility is that the training should take place in some special area at work, but away from the production area.

Foreign manufacturing houses avoid training their Staff at the place of work, because they insist that concentration is reduced and they are often sent off to carry out some task unconnected with the training.

Differences also exist in respect of the times the Companies lay down for their personnel to receive tuition. This differs from Company to Company. The majority elect to have instructional periods during intervals in the employees' work-schedules. We were told that it is very difficult to recall an employee to the factory for training after his 8-hour period of duty and without paying him.

IV CRITICISM OF THE SYSTEM OF TECHNICAL TRAINING

Before we go on to give our basic recommendations for training programmes for Middle Management in the Textile Industry and Ready-made Trade, we think it is worthwhile briefly examining the chief deficiencies the Greek Training System shows in this area today. We do not intend looking at the System in detail and would point out that this has already been carried out in respect of the Grades we are covering in a recent detailed study commissioned by CEDEFOP.

The first point to be noted is the mutual distrust and doubt between Technical Schools at all levels and the Companies in the various sectors. This mistrust, in the case of the manufacturers, stems from the belief that very few Technical School graduates are accustomed to the "real" industrial life, that they have no practical experience, and that their theoretical knowledge is out of date where development and the requirements of modern technology are concerned. At the same time Company representatives feel that graduates of these schools have pretensions over and above their actual level of ability, when they employ them in their Companies.

On the other hand, School representatives insist that students of the Technical Schools are neither properly employed in performing practical tasks in the Company, nor in their capacity as graduates. The Companies have actually formulated no specific policy for the employment of College graduates, which presupposes that "ports of entry" and a "career path" have already been laid down for these graduates. On the other hand, it is emphasised that the Companies' main concern is to adapt the graduates to the manual content of their work (transfers, spools, etc), without making any corresponding assessment of their knowledge and their specialist skills.

In general the Companies show no special interest in encouraging the Technical Schools. It is worth mentioning here that they are virtually "ignorant" of the existence of the TEI and still think of the former SKYP. The following contradiction in terms therefore emerges: whilst purporting to be interested in the technical training of their Staff, their interest in the training system is limited to the point of being non-existent. One could say that they have chosen a path of "self-sufficiency", i.e using in-house training as a means of "solving" their training problems.

The Companies' second main point of criticism is that the instruction given in the Schools about new technology is limited to the point of non-existence and their workshops are old or obsolete. This question is perhaps the most serious point in the failure of the Technical Schools. The lack of sufficient training equipment is linked to various factors, such as the building problem, etc. It is however, primarily due to the lack of sufficient resources to purchase the necessary machines.

The lack of adequate training in the fields of Information Technology and Electronics is especially emphasised.

Linked to this is also the problem of a lack of suitable training aids (manuals, periodicals etc).

A third point is the standard of the instructors in the Technical Schools, and here they are referring in particular to SKYP. It was specifically pointed out that there is no school in Greece, which can produce up-to-date instructors for the Textile Industry. As a result, either technicians with recent experience in Companies or Centres abroad or any other experienced technicians have to be used. In both cases however, instructors are regularly cut off from the sphere of industry or industrial development and are limited in their instructional tasks, unless they can update their knowledge.

The complete lack of contact between the Greek Schools and training centres and Firms abroad also contributes to this situation.

CHAPTER 2 CONCLUSIONS & PROPOSALS

1. The Chief Deficiencies

We will start by summarising the chief deficiencies we have found in the structure of Middle Management.
The first serious problem concerns the lack of any adequate theoretical structure in the Textile Industry and the Ready-made Trade, a fact attributable mainly to the absence of any basic form of training for these personnel, despite the fact that they may have studied at Technical Schools. We certainly do not feel that they should have studied at University Colleges. There is, however, a lack of a basic core of knowledge of all the problems which affect the various sectors, including the corresponding Scientific sectors.

This results in these personnel experiencing difficulty in keeping up with technological progress affecting the sector. This frequently radically affects relations and upsets the equilibrium, when lower-grade Staff are involved in new procedures. Thus despite the fact that in most Companies the Management's technical experience and knowledge of existing procedures in their Departments is generally sufficient, serious problems occur when the need arises for some adjustment. This is also linked to the fact that the Middle Management's knowledge of new production procedures is limited. We particularly emphasise here the requirements of these procedures in the areas of raw materials, intermediate and final product quality, and new product design methods.

A second area where serious deficiencies are noted is in Information Technology and Electronics and their application to the Textile Industry and Ready-made trade. We have mentioned above the significance of these sectors in new production procedures. The problems which emerge here not only concern weakness in knowledge of machinery and fault repair. Problems start to emerge with regard to adequate operation and control of the machines, especially where the production of new lines or a change in design is involved. In particular, especially where Firms have installed new equipment, weakness is shown in evaluating the capabilities of the new equipment and adapting to its requirements. A typical example is that of a new enterprise, which in order to avoid these problems, has specialised exclusively in the production of one type of cloth.

This means that the dependence of Companies on the agency of foreign manufacturing Firms is significantly affected, since these are not in a strong enough position to support a steady stream of requests for advisory services. For this reason the phenomenon of roving professionals and their offices has emerged. They undertake to fill the existing gaps in these areas. This provides a temporary transient solution, the significance of which need not be assessed. We should not, however, always assume that these professionals are adequately trained, for this is not always the case. Nonetheless, this solution can primarily be useful, primarily to those Firms which are located in the larger industrial centres and have centralised units in the relevant sector. Where Companies are located in remote or rural areas, however, they cannot use this type of solution to support their enterprise.

2. THE LONG-TERM PROBLEM

The long-term problem of supplying sufficient Middle Management for the Textile Industry and Ready-made Trade can only be solved by organised technical training. This, however, comes up against the weaknesses in the Greek Training System, which have been frequently discussed. Any detailed consideration of these problems is outside the scope of this study.

We would, however, like to mention certain points which exert a particularly negative influence and which may perhaps be dealt with by ad hoc solutions without the requirement for overall change.

1. As is well-known, until recently the only Textile Industry School existing in Greece was SKYP. Even today, after the foundation of the Textile Industry's TEI, and its acknowledged weaknesses, the study of Textiles in Greece remains at a very low level. Training at University and post-graduate levels does not exist at all, neither in independant schools nor in specialist institutions. It is true that this deficiency has no direct effect on the formation of a Middle Management. It does, however, seriously inhibit the lower levels of training, because the training pyramid is "truncated". Neither the TEI, the Technical Colleges, nor the Companies have any points of contact, nor is there any easy means of access to centres with systematically organised Textile Studies at the higher level.

This has several direct repercussions on the operation of the TEI and the Technical Colleges: from the supply of suitable teachers to the formulation of a programme and material, and keeping up with Technical developments abroad.

The creation of one or more centres for Textile Studies at higher level is urgent. Perhaps the best solution under present arrangements would be the foundation of an Institute for the Textile Industry & Ready-made Trade, comprising student training, monitoring of technological developments in the sector and the supply of advisory services to companies. In the setting up and running of such an institute the industry will need to be directly involved if the mutual distrust between it and the training system are to be overcome.

2. A second important factor is the urgent equipping of both the TEI and the Technical Colleges with modern equipment if the practical training of students and graduates is to be built up. There will also have to be some initiative for a greater degree of cooperation between schools and industry if practical training of students within the Companies is to succeed.

We must emphasise that one of the main characteristics of the present Middle Management is their wide practical experience and the immediate knowledge they have of machinery and the production process. Despite the modifications to the role of these Staff which have been recommended, this aspect should remain. The usefulness of a Middle Management applicant, who has a certain theoretical knowledge, but has never been in contact with a machine is minimal. This, by popular concensus, is the major problem about the operation of the TEI to date.

3. On the other hand the companies will have to appreciate that a newly-appointed member of the Middle Management should not be treated in the same way as a basic employee. It is reasonable that a Middle Management applicant should not be allowed to take up a position with full responsibility until after sufficient years of experience in that field. However, the course (CAREER PATH) this Grade pursues within the Company will have to differ radically from that of the basic employee.

4. It is emphasised that, theoretically at least, candidates for Middle Management will have to be High School (TEI) graduates. Under present conditions we consider that insisting on common training qualifications is not the most suitable way of dealing with the problem. On the contrary, emphasis will have to be centred more on personal attributes as displayed in the work environment.

It is our opinion that it would be useful to provide the infrastructure for a one year's training course for graduates from Technical Colleges to enable them to learn the practical duties of Middle Management.

5. We also consider it would be useful within the framework of both the Technical Colleges and the TEI if an opportunity could be given to students to pursue other specialisms, such as

electro-engineering or electronics, so as to enable them to be employed during the 3rd year of their studies in a way that is relevant to their field within the Textile industry.

3. THE SHORT-TERM PROBLEM

We now come to the training needs of the present Middle Management. The areas where need for training are concentrated are fairly clearly defined:

1. The first sequence of instruction covers the training of Middle Management in technological development and new procedures within the Textile Industry and Ready-made Trade. It will also have to contain a certain amount of theoretical information, which this study has for the most part found to be lacking.
2. The second sequence, which has been shown to be urgently needed by our questions to the Companies as well as by a review of the OAED training programmes, concerns Information Technology and Electronics. As far as the Information Technology part of the training programme is concerned, it should not be some half-hearted tuition in elements of this science, but a compilation from the existing programmes of what is useful and specifically relevant to the Textile Industry and Ready-made Trade. This requires instructors who have an in-depth knowledge of these programmes and not merely a knowledge of computers: very often the training programmes

are limited to general tuition about the nature of computers, the use of operating systems, and familiarisation in use of a language or specific terminology.

It should be understood that the usefulness of such programmes is extremely limited, if they are useful at all. This is because they are based on a perception of the needs of computer school students. Some training strategy will have to be formulated, which shows from the very beginning their relevance to the Textile Industry and Ready-made Trade, so that the tuition given is linked to the actual experience and future practice of those being trained. Suitable manuals will also have to be prepared, since these are almost completely lacking today.

The same observations apply with regard to Electronics. A further point here is that, because of the complicated nature of the problems involved , priority will have to be given to those persons, who already have some basic knowledge of this field.

3. In addition to the "contemporaneous" requirement in Information Technology, there is also a continuing shortage of good maintenance technicians for the mechanical parts of the machines.

We therefore feel that both our survey and the OAED programmes reflect the requirement for technicians and maintenance engineers to possess special skills.

4. Special attention must also be given to quality control. As we stated above, this is one of the weakest areas in the Greek Textile Industry. The peculiarities in this area especially when combined with the use of electronic machines requires especially careful consideration.

5. Another subject which is lacking, and which may also be included with electronics is design. There is no existing department in State Technical schools, where design for the Textile Industry & Ready-made Trade by computer methods is taught. We have, however, mentioned that design is a common area of enquiry from companies in these sectors. To date these needs are dealt with as and when they occur on a somewhat ad hoc basis.

6. A lack of sufficient managerial and financial Staff, who have knowledge of the applications of Information Technology (storemen, etc) is also noted.

7. Because we noticed that new technology gives an increasingly centralised picture of the workshop and allows it to be combined with other departments in the

company (Finance, Commerce, Management) and because of the urgent and recurrent problem of productivity in industry, it is recommended that some tuition be given relating to overall industrial life in such areas as management, productivity and organisational methods.

Another related series of lessons would cover Marketing and include instruction in Basic Marketing Principles, negociating techniques, industrial marketing etc.

It is worth mentioning that such instruction would have to be oriented towards the Textile Industry and the Ready-made Trade.

8. Finally, a common problem in all the companies is an ignorance of foreign languages and terminology including, in certain instances, Greek technical terminology. Here the basic problem is the lack of suitable training programmes adapted to the requirements and abilities of the present Middle Management. Special attention should also be given to the translation of basic Textile Industry and the Ready-made Trade manuals. This would assist in the formulation of a basic Greek technical terminology for the sector. The non-existence of translations of up-to-date manuals at both

Technical college and TEI levels, increases the confusion and disarray which currently characterise technical terminology and result in communication problems.

4. ASPECTS OF TRAINING ORGANISATION

We noticed that Companies are adopting a variety of training methods in an attempt to deal with the problems created by new technology. We do not feel here that it would be expedient to limit the training methods which are accepted for State "subsidisation". On the contrary a re-appraisal of the criteria for allocating subsidies should be made. These should move away from general external requirements towards adequacy of content and instruction.

Special attention and support will have to be given to the training of Staff at efficient schools and companies abroad. This practice, as we saw above, is only adopted by the large concerns, because of the high cost. We would like to state, however, that with the current state of the training system in our country, it is inevitable and also essential that it should continue for at least the next few years.

Likewise, the formulation of training programmes at home will have to be encouraged in conjunction with foreign Technical Centres and Companies.

We consider that the above two aspects should have immediate priority so that a nucleus of Staff can be trained in the existing state of learning in their subject. This will result in the formation of a base for wider dissemination of that learning. We also have to point out that, because of the high cost of these programmes, their organisation will have to be undertaken where possible by groups of Companies with the support and encouragement of the State Authorities. In any event CEDEFOP will be prepared to assist in this by giving information about centres and programmes which are being developed within the EEC.

We referred above to the significance of the OAED programmes. In our opinion greater emphasis will have to be laid on the content of these programmes as well as the qualifications of the instructors. An attempt will also have to be made to assess the results.

Finally we should not neglect the training of the "free professionals", whom we have seen appear in the last few years, especially in the fields of Information Technology and Electronics. An attempt will have to be made to make lists of these professionals, their offices, and the services they offer.This will ensure that the right competitive spirit is created, primarily with regard to the quality of the services they are offering.

Training programmes will also have to be arranged for these technicians: our enquiry has established that they are significantly few in number, compared with the market requirement.

ANNEXE I

CASE STUDIES

COMPANY "A"

Company "A" is one of the largest textile Companies in the country. It produces cotton yarns, fabrics and knitted goods.It also has dyeing and finishing facilities for these products.

TECHNOLOGY

The level of technology varies between the Company's factories. The older machinery was purchased during the 1950s, whilst the more modern was bought in 1987. For example, one of the Company's spinning-mills uses 'RIETER' machines with automatic doffing.In one of the most up-to-date weaving-mills 'SULZER' shuttleless looms are in use.

In the opinion of the Company representatives (chiefly Managers from various Production Units), the importation of new technology mainly affects the older workers and technicians. In particular, those who have 20 or 25 years experience in the trade, even though they are generally very well versed in production machinery, often feel inadequate when using the new technology and have difficulty in adjusting to its demands.

The problem of familiarising employees with new technology is exacerbated by the Company's serious cash problems, which limit the resources available for Staff training, especially abroad. Furthermore, a lack of funds has prevented their carrying out an adequate investment programme: it is well known that the best way to spread new technological knowledge and give the Staff practical experience and familiarisation with machinery is by investing in the exact equipment from which these skills can be learnt.

In answer to the question of whether new technology leads to a centralisation of duties ("clustering of tasks"), the Company representatives stressed that centralisation of tasks is the Company's constant aim, with or without new technology. This policy is geared to the major deficiencies of adequately trained, experienced, and competent Staff with the requisite knowledge of the overall picture of some production area, to enable them to take over its management. Such Staff are destined under normal circumstances for the position of Shift Supervisor in one of the Company's factories. Furthermore, Staff with these kind of skills are considered exceptionally valuable and are known throughout the entire Firm. Because their training usually requires considerable cash expenditure for them to attend training courses in foreign technical schools, their retirement is considered a significant loss.

In all the Company's factories, the area where the most serious problems occur is that of maintenance and repair of faults. Installation and initial operation of the machinery are undertaken in conjunction with representatives of the foreign Firm, which manufactured the machinery. After the departure of these representatives, however, faults and breakdowns of machinery show a large increase. Responsibility for maintenance of the machinery and repair of faults rests with the Maintenance Manager and in more serious instances, the Production Manager. In any case, to avoid serious problems, the Company nearly always maintains an "open line of communication" with the foreign manufacturers.

With regard to the problem of quality control, the Company representatives stated that its level is in general unacceptably low in Greece. In particular they mentioned the problem of quality control of cotton. The defects in cotton are transferred to the thread, then to the fabric and finally to the product, thus adversely affecting the whole range of production in a serious way.

Air conditioning and processing of waste vary from factory to factory within the Company, chiefly depending upon the year and structure of the building. The Company is especially proud of its new method of processing waste using an "upflow anaerobic filter", which it has introduced after careful study and trials lasting about 5 years. Having introduced this method in one of its factories, the Company now intends to extend its use to the others.

MIDDLE MANAGEMENT AND ESSENTIAL TRAINING

We now come to the problem of defining what is meant by Middle Management. In the Company we examined, Shift Supervisors and Maintenance Supervisors belong to this group. Thus the Middle Management is responsible for maintenance of machinery and repair of faults as well as for ensuring the smooth running of production. Wider issues such as the organisation of production, division of labour, recruitment, promotion and pay policy etc are not included in their duties. Responsibility for these matters rests with the Senior Management. On the other hand, the demarcation lines between Middle and Higher Management are not always clear and differ between factories.

Most of the Company's Middle Management are graduates of Intermediate Technical Schools. Some have completed continuation training abroad. This is also more or less the case with the Higher Management (e.g. Departmental Managers). Serious problems arise because of a lack of knowledge of foreign languages. Because of this the

Company representatives insisted that every Middle Management training programme should include learning the basic elements of a foreign language.

Further problems are Middle Management's lack of experience, ability, and management training. For this reason it was suggested that they should be given some training in modern business management methods.

Severe criticism was made of the training of graduates of the Greek Technical Schools. This primarily concerned their complete lack of practical experience. In particular, graduates of the TEI consider their role within the Company has nothing to do with manual labour. According to the Company representatives, however, Middle Management should have a good knowledge of all aspects of machine operation, maintenance and repair. This, amongst other things, is the only way for them to succeed in supervising their subordinates. They lack this knowledge, which is not given by TEI.

Similar doubts were also expressed about the initial placing of TEI graduates in junior manual jobs such as machine-feeding. The consensus of opinion is that, before they take up positions of responsibility, new employees should acquire a taste for manual work. The question is, however, to what extent this may be impossible due to technical or operational reasons, and to what extent it constitutes an integral part of Staff Management and factory discipline.

In addition to this general criticism, the Company representatives stressed the lack of trained weavers, fabric-workers, and dye-workers who had sufficient theoretical knowledge of the Textile Industry's processes for them to be capable of following technological development.

Finally, the main means the Company uses to keep itself informed about technological progress is by going to international exhibitions of Textile Industry machinery and equipment.

COMPANY "B"

Company 'B' is one of the oldest spinning-mills in Greece. It was founded in the 1920s. It has two factories located in Attika, which employ 520 and 300 staff respectively. It produces 'pegne' and 'carde' cotton yarns and has a daily capacity of about 15 tonnes. The ratio of spindles per worker is about 230 throughout the factory. According to the Company representatives this rate indicates low productivity. Approximately 85% of the cotton used is Greek and the rest is imported.

Approximately 20% of production is exported to EEC countries and Cyprus. Product quality is the same for both internal and export markets. It is generally unsatisfactory.

TECHNOLOGY

During the last few years the Company has been faced with serious financial problems. For this reason there has been no replacement of the main equipment since the beginning of the 1970s. It has no up-to-date first-hand experience of the results of importing new technology. The Company has, however, recently purchased a new cotton quality assessment system, which is capable of checking a wide range of the materials' qualities with an impressive accuracy rating. It is worth noting that, despite its relatively low cost (approximately 20m Drachmas), only 7 or 8 Greek Textile Industry enterprises have purchased this system. Furthermore, the Greek National Cotton Organisation itself does not own such a machine and still carries out quality control by empirical methods. This is characteristic of the low rate of improvement in quality control in the Greek Textile Industry.

The procedure for installing new equipment is very relevant to the spread of new technology and the necessary training. The American representative of the Firm which supplied the machine, delivered it to the Company in person. The foreign technician then installed the machine at the location where it was to be operated, i.e. in the fibre quality control department. He conferred only with the factory manager, who is a graduate of an English University. During his 3 day stay the foreign technician had to train the users of the machine as well as the senior personnel, who would be responsible for its routine operation, maintenance and repair. It is clear that in this case the importation of the new machine had repercussions throughout the whole industrial hierarchy of the Department.

With regard to the effect of the importation of new technology on user skills and problems of task centralisation, the Company representatives stressed the lack of skills in Electronics and Information Technology (users, programmers and electronics repair experts) in all production departments.

Company representatives also stated that promotions and appointments within the Company are made in accordance with fitting criteria.

The Company representatives, who were obviously anxious about the Company's financial problems, tended to underestimate the serious technical problems and stated that their only actual problems are financial ones. Despite this they noted that the main technical problems arise during the installation and maintenance of machinery. The Company has a technical supervisor responsibile for coordinating machinery, who works in conjunction with the foreign manufacturing Firm's representatives.

MIDDLE MANAGEMENT & ESSENTIAL TRAINING

In this Company Middle Management comprises shift supervisors, foremen and maintenance and repair supervisors, as well as certain other technicians such as electricians. Maintenance and repairs are the responsibility of Middle and Lower Management. Middle Management is involved in most of the technical work. The Company has recently been trying to re-grade the role of Middle management, by entrusting to it competency in such matters as organisation of production, the division of labour, and increasing productivity. Until recently these matters had belonged exclusively within the province of the Production Manager.

According to the survey, Middle Management are graduates of Intermediate Technical Schools. Somewhat paradoxically at first sight, Higher Management are graduates of Lower Technical Schools. This is however explained by the delay there was in opening Intermediate Technical Schools in Greece.

The Company attaches great importance to Staff training. This takes place both within and outside the factory, but in each case after working hours. The four instructors are former Company staff, who are now exclusively employed on training duties.

As we noted above, the main deficiencies according to the Company representatives, are to be found in the Electronics and Information Technology, Company management, and Organisation and Employment Methods sectors. They also stated that there is not so much a lack of specialist knowledge as a lack of in-depth understanding of certain specialist areas, such as weaving, fabrics etc.

They consider that this knowledge can be acquired by organising training within the factory, but outside working hours. Although Staff training abroad is one of the aims of the Company, this is made extremely difficult by the lack of sufficient funds. In addition to this, problems of familiarisation with new technology are also created by the lack of funds over the last few years.

Contact with machine manufacturing Firms abroad is usually maintained in two ways; either by local visits being made by the foreign Firm's representatives, or by sending Company personnel abroad to attend seminars organised by the foreign Firm. The actual employees who are to attend the seminars are selected by the Company, according to the type of machinery they use.

The Company sent the following Staff Training Programme to OAED for 1989:

1. New Technology E/C (Electronic Computers)
   - A. New technology in quality control
   - B. New technology in production
   - C. Management-Productivity - E/C
   - D. Hygiene & Safety at work

2. Training Programme for Electricians
   - A. Study of electrical energy consumption
   - B. Electric machines-automation

3. Training Machine Technicians

4. Management Programme

   - A. Management-Productivity
   - B. Work Study

5. Financial Programme

   - A. Logistics-Applications E/C
   - B. Costing - Applications E/C
   - C. Tax - Applications E/C

6. Marketing Programme

   - A. Negociation technique
   - B. Basic Rules of Marketing
   - C. Industrial Marketing
   - D. Organisation & Sales supervision

105 employees will attend the first 4 seminars and 25 the last 2.

This programme reflects the viewpoint of those in the Company, who are responsible for the Staff's main training needs. The requirement for in-depth knowledge in such specialist areas as weaving, fabrics, etc, was particularly emphasised. It is the opinion of the Company that this knowledge can be acquired within the factory, but in seminars held outside working hours. They also noted the need to train a number of adequate instructors.

Although the Company recognises the need for Staff continuation training abroad, the opportunities for this have been limited during the recent past because of the minimal purchasing of new mechanical equipment. It is clear that they are here referring to tuition in the training centres of machinery manufacturing Firms, rather than in foreign technical schools.

The major ways for up-dating the Company's information are by studying advertising material and by visits to international Textile Industry equipment exhibitions.

COMPANY "C"

Company "C" was founded in the mid-1960s and produces, dyes, and finishes woollen and synthetic yarns (pegne and carde) chiefly for the requirements of the knitwear trade. Its main factory is housed in a building 100 metres long by about 50 metres wide, and is located in Boiotia. The Company also has other factories. The age of the mechanical equipment varies from factory to factory. The raw materials used (synthetic fibre, wool, etc) are for the most part imported from abroad.

TECHNOLOGY

All the Company machinery was purchased from abroad (mainly in Switzerland, Germany, Italy and the USA). As might be expected, the level of technology varies from factory to factory. Most of the machinery was bought between 1968, when the Company started in operation, and 1980. The level of technology also varies within the various departments of each factory. In some departments the technology in use is fairly modern, as for example in the 'gill-boxing', where self-regulating machines with automatic fault-correction and a mechanical auto-leveller are used.

Likewise in the wool department there is a "monitoring system" as well as a first generation robot, which does automatic "doffing". Monitoring systems can also be added to the looms. The most sophisticated machines, however, are a "radio-active drier" and "data-colour" system in the dyeing department, and a computerised quality control check system.

In the opinion of the Firm's representatives importation of new technology only necessitates the re-structuring of actual jobs, and not of the whole production procedure. For example, the importation of automated checking systems and processes for material and product transfer necessarily leads to a considerable increase in the demand for skills connected with electronics. The same applies where computers are used in the Company's finance and managerial departments.
It was however generally accepted that in overall production a reduction in the number of jobs is expected.

As far as specific skills are concerned, Company representatives emphasised that the importation of new technology does not lead to their becoming unnecessary, but rather to a re-allocation of the skills in question. For example, the importation of automated 'doffing' does not dispense with specialist "weft-bobbins". On the other hand, it is certainly true that the overall number of weft-bobbin workers will decrease.

When asked whether new technology leads to tasks being centralised, the representatives stated that in their Company centralisation of tasks is not caused by the importation of new technology, but by a lack of knowledge and understanding of production procedures on the part of the majority of the Middle Management. This factor leads to an over-centralisation of tasks and responsibilities at the higher levels and is the same in all production departments.

Technical and professional training qualifications pull very little weight when new staff are being selected. The main criterion for recruitment is the graduate's previous experience in the Textile Industry. If no such graduates are to be found, those with experience in any other type of Industry are preferred. It is clear that technical training does not constitute a criterion for selection.

The most serious technical problems are connected with the installation and initial operation of the machines. These problems are usually solved with the help of the supplying Firm's representative. The operation and use of new machines is easier than that of the older machines. On the other hand maintenance and repair of faults is left to the Company's Middle Management, who in many cases have had no training. The Company representatives stated that generally, under present conditions, the use of foreign associates to repair serious faults is more economical for the Company than employing a specialist technician.

The Company has a quality control department and quality control is carried out by the managerial staff. It also has air-conditioning and extractor systems. A qualified mechanic and an assistant mechanic are employed in operating these.

MIDDLE MANAGEMENT & ESSENTIAL TRAINING

The expression "Middle Management" as used in this Company, means primarily the foremen who are in charge of groups of 2-3 employees. These foremen are not themselves directly employed in manual work. There are 7 of them, working in two shifts. Middle Management also comprises shift supervisors and various technicians, such as electricians or electronics experts, etc.

As we mentioned above, Middle Management is responsible for the daily operation, maintenance and repair of machinery, except when serious faults occur and foreign associates are used.

Middle Management is not, however, responsible for the installation of machinery, the overall organisation of production or the division of labour etc. These matters are dealt with by Higher or Senior Management.

All Middle Management have completed their Secondary education and a number have studied in Lower and Intermediate Technical Schools. The Middle Management is trained within the Company, chiefly at seminars, where they assemble in a special area after working hours. The instructors are usually Company specialist advisors or have been trained at special institutes and Schools.

Once again the problem of a lack of knowledge of foreign languages was brought up.

The Company representatives also mentioned a general lack of adequate training for the whole of the Company personnel. Weavers and fabric-workers, for example, are trained in the factory, but the theoretical aspects of training put over in this way are necessarily limited.

COMPANY "D"

Company "D" is a relatively new company. It was founded at the beginning of the 1970s in an area where no other industrial unit had been established. It has been continually expanding ever since its foundation. In 1986 it commenced operation of a modern weaving unit.

Today the Firm comprises ginning and cotton-weaving units, a cloth mill, and cutting, sewing and packaging departments. It is worth noting that this Company uses cotton from special plantations. It employs about 650 workers.

TECHNOLOGY

The Company's most modern departments, technologically speaking, are the ginning unit (with American machines) and the weaving unit (with 'RIETER' machines). Some departments operate with a centralised checking system, whilst others have machines with in-built numerical checking facilities (numerical control). This Company also has good air-conditioning and extractor systems.

With regard to the problem of the impact of new technology on specialist skills, the Company representatives stated that this primarily involves limiting the auxiliary work (transfer of raw materials and intermediate products, etc).

The main technical problems emerge at the time of installation and initial operation of machinery. These problems are mainly solved in conjunction with the foreign supply Company representatives.

MIDDLE MANAGEMENT AND ESSENTIAL TRAINING

The expression Middle Management as used by this Company comprises Shift Foremen, Shift Supervisors and specialist technicians, such as electricians, maintenance technicians etc. These personnel are paid a significantly higher salary than basic employees. All of them undergo intensive training before they take up their appointments.

The main tasks of Middle Management in this Company are the daily flow of production, and maintenance and repairs to machinery. This excludes serious faults, which are dealt with by the Production Manager. Middle Management are not, however, responsible for the installation of machinery. Other important matters such as organisation of production, division of labour, engaging staff, and arranging the production schedules, are not their responsibility but are controlled by the Production Manager and Higher Management. All suggestions from the Middle Management are, however, given serious consideration.

The Production Manager is a graduate of both American and European Universities. The Weaving Manager is a graduate of an English University. Both these Managers are responsible for instructing untrained personnel. Training is carried out in special halls at the place of work. Basic employees are trained during working hours, but training for managerial staff takes place after work.

The academic qualifications of the Middle Management are very low. At best they have attended Elementary School followed by a few terms at Gymnasium. Consequently they have no theoretical knowledge of the Textile Industry and do not speak any foreign languages. Inevitably the weight of responsibility which falls on the Higher and Senior managerial Staff is greater than usual. It is also doubtful to what degree in-house training can, in this case replace the theoretical knowledge given at the special Colleges.

In addition to the above, Company representatives also mentioned the need for adequately trained weavers and fabric-workers and the lack of technical specialists in the field of quality control.

Quality control in particular was also mentioned by the Firm's General Manager, who is a member of the Management Board of the Greek Cotton Organisation. He stated that correctly organised quality control departments and the creation of a national system for standardising the quality of cotton are essential to the development of the Greek Textile Industry. Such a system would be beneficial throughout the whole range of Textile production, from cotton selection, through to weaving, dyeing and finishing.

In the opinion of the Company representatives, graduates of Intermediate Greek Technical Schools may undertake manual tasks, since they require practical work experience in the absence of any schools in this field. This same deficiency is shown in the TEI.

Because of the lack of knowledge of foreign languages, the Company does not consider that training its Middle Management abroad would be either expedient or advantageous. In the opinion of the representatives, training Higher and Senior Managerial Staff at foreign schools would be preferable. These personnel could then train the Middle Management on their return.

COMPANY "E"

Company "E" was founded in 1975. It comprises weaving and fabric units. It produces cotton yarns and fabrics exclusively for the home market. It employs about 30 staff. Its factory is located in Western Greece.

TECHNOLOGY

The Company's mechanical equipment was purchased during the periods 1971-75 and 1981-85 from the Companies RIETER and SULZER. This cannot be considered advanced technology.

In the opinion of the Company representatives, the main technical problems arise in connection with the operation, maintenance and repair of machinery. Repairs are the responsibility of the Production Manager. The Firm has for a long time worked in conjunction with a textile Company located in Attica. A technician from the Attica Company visits the establishment about once weekly to offer his services in an advisory capacity and to solve any serious technical problems that may occur.

Since it was founded comparatively recently, the factory has good air-conditioning and extractor systems.

MIDDLE MANAGEMENT AND ESSENTIAL TRAINING

In this Company the expression Middle Management applies chiefly to the production foremen. Their main responsibilities concern the daily flow of production, the maintenance of machinery and the repair of simple faults. They are also involved in increasing productivity, production organisation, and the division of labour.

The Company's Middle Management are graduates of Lower Technical Schools. The Company has no organised policy for Staff training either internally or outside the factory. Neither do the Middle Management know any foreign languages.

According to the Company representatives, graduates of the Greek Technical Schools have sufficient theoretical knowledge of textile Industry procedures. They fall short, however, in practical experience. They consider that the main problem is the deficiency of adequately trained weavers and fabric-workers for the traditional machines, and not the lack of specialist knowledge of advanced electronic equipment.

As we mentioned above, the Company has no laid down training programmes for its Staff either in-house or abroad. Its representatives, however, showed a keen interest in the possibility of seminars being organised or subsidised under EEC arrangements.

The Firm attempts to keep in touch with technological development with the help of technical magazines.

COMPANY "F"

Company "F" is involved in processing cotton and mixed fibre fabrics. It also has a dyeing and a finishing unit. Its volume of production amounts to 8 million metres a year. It is considered to be one of the foremost dyeing and finishing enterprises in Central and Southern Greece. It is located in Boiotia and occupies a covered area of 10.5 thousand sqe metres. It was founded during the mid- 1960s.

For its raw and auxiliary materials, the Firm uses "ecrou" fabrics, paints and various chemicals supplied by Bayer, ICI, etc and operates chiefly in "facon" work. Only 10% of its production is carried out on the Firm's account. It employs about 113 staff.

TECHNOLOGY

The dyeing and finishing machines were purchased during the post-1975 years. Most of it was bought after 1986, chiefly from Germany, Denmark and England. It is modern technology of which the most advanced are the finishing machines.

According to the Company representative, new technology does not create overall re-structuring problems in the sector. It does not, for example, dispense with existing specialist skills. It mainly just speeds up the production process. Notwithstanding this, however, the technical problems which it does create are serious ones.

As in most of the Companies installation and initial operation of the machinery is carried out by foreign technicians. One of the Company's mechanics is involved in this procedure. Programming the machines is done by the shift supervisor in conjunction with the Production Manager.
A maintenance mechanic and three assistants are responsible for maintenance and repair of faults.

It was also explained that there is no independant quality control department. Quality control is carried out on the spot at each stage of production. This control is carried out by the immediate machine-operator, using the machine's own electronic mechanism. Finally, waste-disposal is carried out biologically and the waste residue is tipped into a nearby river.

MIDDLE MANAGEMENT

The Firm's Middle Management are the three shift foremen and the maintenance mechanic (a graduate of Intermediate Technical School). The responsibilities of the shift foremen involve overseeing production and correcting faults. In cases of difficulty they contact the Production Manager.

The two mechanics who supervise machine maintenance, air-conditioning and the waste-disposal systems, together with their three assistants, are also designated Middle Management.
The Middle Management are not responsible for, nor do they participate in the installation of machinery, technical organisation, production programming or machine regulating and operation. They are, however, involved in, and responsible for maintenance and fault repair and for increasing productivity. They also take part in organising and defining the division of labour, setting salary levels, and Staff assessment.

The Firm's senior mechanic is responsible for the remaining problems. In the case of problems involving electronic equipment, the Company works in conjunction with an electronics expert, who visits them regularly once a week or exceptionally, when need arises.

LEVEL OF TRAINING

Two of the Shift Supervisors are graduates of SKYP, the third is a Gymnasium graduate with 35 years experience in the Textile Industry. The Maintenance Mechanic is a graduate of Intermediate Technical School. One of the Production Managers is a University Chemistry graduate, the other is highly experienced. There is also a Polytechnic graduate in Mechanics.
Whenever a purchase of new machinery is made, the Company invites a foreign technician from the supplying Firm, who trains the Middle Management as well as the actual users. This training lasts for 2-3 months or more and is carried out at the place of work. In the Firm's experience it generally needs about 3-6 months to train machine users.

The Company's Middle Management know no foreign languages.

The Company representative was very cautious about the possibility of solving Middle Management problems by organising training programmes. He feels that the great majority of the needs can be covered by an increased use of technical instructors from the foreign supply houses. In general he showed that he had a preference for those procedures, which were under the Company's direct control.

In his opinion, graduates of the Greek Technical Schools created many problems when they were involved in the production process. For example, graduates in chemistry from Intermediate Technical Schools, who are destined to assume positions of assistant chemists, have no actual practical experience with machines.

In his opinion the workshops at Intermediate Technical Schools are both inadequate and obsolete. This is the main problem of these schools.

Another problem he mentioned is the absence of electronics experts specialising in the Textile Industry. As a typical example he quoted the Firm's foreign associate electrician, who is self-taught as far as the Textile Industry is concerned.

The Company representative also stated that the Greek Companies are regularly dependant on foreign supply houses. For example, where the repair of faults is concerned, the foreign houses do not hand over any detailed plans, apparently in order to avoid the possibility of their machines being copied.

Finally, the Company keeps itself up-to-date with technological developments by means of printed material from supply houses and from ITMA exhibitions.

COMPANY "G"

The Company has two factories. The first is located in Lamia District and employs a total number of 240 personnel (employees and managerial staff). The second is located in Attica and employs 60 personnel.

The Attica factory (a 4,000 sq m covered site), produces fabrics for the home - quilts, sheets, table-cloths etc, and prints 90% of these. The Lamia factory, which occupies a site of 60-70,000 Sq m, with a covered area of about 16,000 acres, produces mainly type "30" standard yarns for ginning, and ginning fabrics. It also has a dyeing and finishing unit for ginning. This vertically integrated unit started in operation two years ago at a cost of around 1.5 billion drachmas.

The cost was met by a "spontaneous" investment by the owner, that is to say, without any detailed costings or feasibility studies having been made, and based primarily on the spectacular achievement of the two factories two years ago.

We should however, point out here that production of fabrics for "ginning" creates no specific technical difficulties and the problem lies in placing the product on the market, rather than in production. The production of only one type of cloth also simplifies the printing and production procedures.

TECHNOLOGY

Both factories use cotton and polyester as their raw materials. The textile machinery in Lamia is considered the most advanced existing today in this field. It was mainly purchased in 1985 and the countries of origin were Italy (Marzoli), Switzerland (Sulzer) and Germany.

The looms are "linked-system", which allows economy, high productivity, freedom from intermediate transfer, reduction in labour (less frequent feeding of the machines, removal of groups of work-benches, automatic packing) as well as a reduction in the number of staff required for production control.

The Production Manager insisted that the new technology presents very few more technical problems than the old. Difficulties in installation and initial operation are resolved by foreign technicians.

Programming the new machines, as far as the Unit's production is concerned, is simple, because it is limited to one product. The factory mechanic, who is experienced, is capable of solving routine problems.

He did however, stress that machine operators need wider knowledge in order to operate the new technology.

Difficulty in maintenance is increased, because the machines are electronic. A foreign associate, who is an electronics expert carries out the "servicing" of the machines. The Firm's mechanic and certain other essential users have been trained abroad by the Companies supplying the machinery, so that they will be able to correct faults.
It is part of production routine that all relatively easy technical problems are initially dealt with by the immediate users. More difficult problems are handled by the Shift Supervisors and, if they are unable to solve them, they are taken up by the Technical Production Manager in the last resort.
This Company has no quality control department for checking the final product. Checks are carried out departmentally at the various stages of production by the immediate staff.

MIDDLE MANAGEMENT

The tasks performed by Middle management are : (a) supervisory, i.e. they are responsible for relations with, and the work of the Staff; (b) checks at the various stages of production. In particular, the Weaving Supervisor is responsible for overall yarn production. The supervisors of weaving, fabric-production, and dyeing and finishing, all carry out maintenance and correction of faults on the machines at their level.
A Technical Mechanic is also classed as a member of Middle Management. This experienced technician regulates the textile machines, corrects any faults, and is also responsible for the auxiliary task of air-conditioning. The Middle Management carries out the correction of 8% of all faults. The Middle Management are also present at, and are involved in the installation of textile industry machinery, the organisation and division of labour and Staff assessments and dismissals. However, technical organisation, production programming, recruitment, incentives and salaries are all performed by the Company owners. Foreign technicians from the supplying Firm have full responsibility for installing and regulating the machines.

Pay, incentives and promotion of Middle Management differ from those of the direct work-force. The Company representative agreed that new technology has the following effect on the work of Middle Management: (i) the nature of work with electronic machinery is more refined and less manual. A long-term weaver would be able to start operating the new textile industry's machinery after one month's training.

The Company representative was of the opinion that this training should be carried out by the Production managers. In most cases, however, it is done by the foreign technicians from the supplying houses.
The Company representative also explained that in the new factory's fabric-production unit Middle Management have routine tasks and responsibilities because the weaving-machines have been pre-regulated to produce the one type of cloth - "gin", which is considered simple. The same applies within the dyeing and finishing unit. The Company Mechanic plays an important part in overall production. He is an experienced long-term employee from Germany. He too mentioned the lack of specialist Staff.

The Company does not have its own unit designers to produce printed fabrics in the Attica factory, but uses independant professionals. The electronics expert, who assists the Firm's maintenance Department is also a foreign associate.

LEVEL OF TRAINING

The Factory Manager is a graduate of Belgian Intermediate Technical School. There is no other Technical School graduate. The Company has no systematic Staff training policy. Short training periods are held occasionally, when it is thought absolutely necessary. This usually occurs after each new purchase of textile machinery and primarily concerns the Middle Management.

Training of machine-operators is carried out by Shift Supervisors, but this too is without any organised system, and lasts only for a few hours. Training in the dyeing and finishing unit is also very much "simplified".

Here the Production Manager is a University graduate, but the Middle Management and machine operators are experienced Staff. The Production Manager of this department explained that his Diploma in Chemistry from a Greek University has been of only limited use to him in the textile dyeing industry. He has needed to study a great deal and has only built up the knowledge he now has after much work experience.

He stated that, anyhow, colour-mixing in dye-working is arranged in detail by the Chemical Industries (ICI, CIBA, BAYER etc), and that using machines to make such a simple product as "gin" does not create problems. He added that the finishing of fabrics creates no problems, unlike for example, finishing woollen goods, which still requires " a high degree of skill", despite the fact that in this sector mainly experienced Staff are used. He also stated that he knew personally that in the dyeing and finishing sector experienced personnel are in charge.

Regarding the matter of foreign languages, none of the Middle management knows any foreign language except for the mechanic, who has worked in Germany.

When asked in what areas Company Middle Management are lacking the representative explained that they were deficient in both the technical and the managerial aspects of their work. Because they are experienced, they have not considered the nature of their work in any depth and their knowledge of the field is very limited. They display little ability to adapt to new ideas in their work and in general can only progress with difficulty beyond standard production routines.

This means that any change in production brings panic and mistakes. For this reason they prefer the routine processes of the textile industry machines. This passive acceptance of technology and the difficulty encountered by immediate operators as well as Middle Management in adjusting to change, significantly increase the number of responsibilities borne by the Production Manager.

In general the lack of adequate Staff creates a tendency to overburden both manual and supervisory personnel, who are themselves barely satisfactory, with a large number of additional responsibilities. It also leads to a higher degree of centralisation of tasks from various specialist areas.

He considered that in order for them to gain a fuller picture of the sector, Middle Management should attend seminars in each specialism (weaving, dyeing, fabric-production etc). It would be a good thing if these seminars could also be attended by the industry's Higher Management.

His opinion of graduates of the Technical Colleges was that, although they are fairly familiar with the theoretical aspect of the work, they have a total lack of practical experience.He also mentioned a general deficiency of electronics experts in the Textile Industry. Finally he noted an urgent need to create a Textile Industry Faculty in Higher Education, because of what he called a basic lack of knowledge of the sector, which is affecting the whole structure of the Industry.

The Firm is kept up-to-date about developments in modern technology chiefly by means of "prospectuses" from the manufacturing Firms.

COMPANY "H"

Company "H" was founded in 1950 and became a Limited Company in 1975. Its factory is located in Attica. It produces woollen yarns, woollen fabrics, cashmere shirts and Government supplies (Army and Air Force uniforms etc). It does not export goods. Its volume of production per annum is 200 - 250 tonnes.

Its raw materials are imported wool (from Spain, Australia, South America and South Africa) and polyesters from Italy. It employs a total of 128 personnel: 96 machine operators, 6 Shift foremen, 3 Department Supervisors, 21 Technicians and one Coordinating General Manager.

The production processes followed are as follows: the sliver is dyed and re-combed, the woollen sliver is spun in the mill, woven, the fabric is mounted and then goes through the finishing process. .

TECHNOLOGY

Great disparity exists in the Company's technology. It has machinery purchased in 1930, as well as modern machines, purchased new or second-hand from foreign salesmen abroad. The most advanced textile machinery has internal mechanical checking facility and in the weaving unit there is an automatic "doffing" machine. The dyeing and finishing departments have fairly old machinery, which is, however, being renewed.

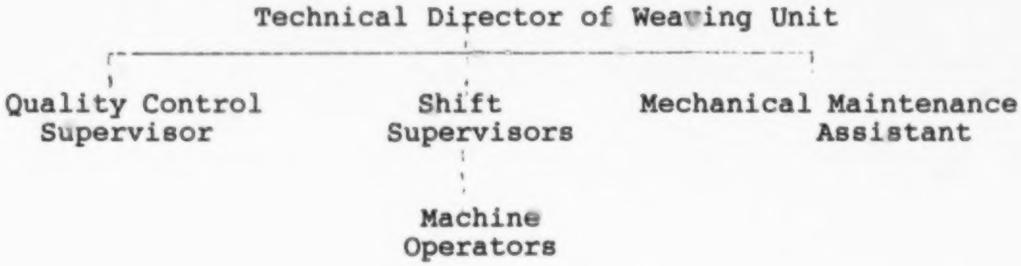
Purchases of new machinery necessitate better production programming. The Company representative stated that the new technology does not do away with specialist tasks, but merely limits their number. e.g. an experienced mechanic is no longer adequate unless he has some knowledge of electronics. Maintenance can be carried out by the foreman, but he too needs to understand electronics. The number of work-benches is reduced, by the automatic "doffing" machine, but they are not entirely dispensed with.

New textile machinery is assembled by technicians from the foreign supply houses. The Shift Supervisors and Technical Production Managers do the programming. Maintenance is done by maintenance engineers. It should be mentioned here that, because there are fewer mechanical parts in modern machinery, manual labour is reduced, but on the other hand, some knowledge of electronics is necessary. It is also worth mentioning that, in the event of computer failure, repairs are not carried out by the factory technicians, but by those of the manufacturing Firm. This is the case with many electronic machines.

The main aim of the Company's quality control department is to maintain production targets quantitatively, rather than to keep a check on quality. A graduate of a foreign technical college is in charge of the quality control department.

MIDDLE MANAGEMENT

The Company Middle Management comprises the Quality Control Department Supervisor, Shift Supervisors and the Assistant Maintenance Mechanic. These Staff are answerable to the Technical Director of the Weaving Unit. The departmental organisational plan is summarised in the following diagram.


Technical Director of Weaving Unit
Quality Control Supervisor
Shift Supervisors
Mechanical Maintenance Assistant
Machine Operators

Middle Management check production flow and take part in maintenance and repairs. Maintenance engineers are involved in the installation of machinery, and in maintenance and repairing faults. The Shift Supervisors are responsible for technical organisation and production programming, increasing productivity and organisation of the division of labour. They are also in a position to correct certain faults.

TRAINING LEVEL

Of the three Shift Supervisors in the weaving unit, one is a graduate of an English Higher Technical College, the second has a diploma in practical mechanics and the third is a practical mechanic. The Production Manager is a graduate of SKYP.

The Weaving Unit Production Manager is an experienced designer. There is also a graduate of SKYP and a practical maintenance Engineer. The Manager of the Dyeing unit and his assistant are both graduates of foreign Technical Schools.

The Middle Management, which comprises the Dye-works Foreman, maintenance mechanic and Charge Hand are all experienced Staff.

We should point out here that the dye-works machinery is old and therefore the question of adapting Staff to new technology does not arise. There is, however, a training policy for all Company personnel and the Company is in fact preparing a detailed training programme for consideration by the Common Market.

A foreign Firm carried out the Company's programming with emphasis in the Weaving Unit being placed on improving productivity. The same Firm has drawn up proposals for the Dyeing Unit.These proposals stress that there is a tendency to centralise a number of Middle Management tasks, as well as to dispense with some of the auxiliary jobs.

According to the Company representative, Middle Management who are graduates of foreign Technical Colleges have a knowledge of foreign languages. This is not, however, the case with graduates of Greek Technical Colleges. It is the view of the Company representative that Middle Management require to know about electronics as well as modern mechanical matters. In his opinion the instruction given by Greek Technical Colleges is deficient; workshops are non-existent; Training Staff are not up to date, at least at SKYP; and there is a universal lack of books. In addition the training programme for specialist subjects such as weaving, dyeing etc, should be thoroughly revised and modern machines used, in up to date work-shops. He also stated that the lack of practical trade experience on the part of Technical College graduates creates the wrong type of mentality. They are not prepared to accept industrial life with its routines and rank structure and they try to remain remote from the production area and the immediate operators.

COMPANY "I"

Company "I" produces "Carde" and "Pegne", OPEN-END, 100% cotton and synthetic-mix yarns and has an overall volume of production of 18 million kg per annum.

Its 4 factories are located in Western Macedonia on a 175-180,000 sqare metre site, with a covered area of 75-80,000 sq m. They use cotton and, to a lesser extent, synthetic fibres as their raw materials. Exports account for 60-65% of total production, with the remaining 35-40% destined for the Home market. Quality is identical in both cases. The Firm employs a total of 790 personnel. Employment figures in individual factories are shown in the table below:-

Factory	A	B	C	D
Clerical	21	81	57	12
Manual	49	282	196	53
Total	70	363	253	65

Technical Staff are included under clerical and a total of 41 personnel employed in the Firm's administrative offices in Athens should also be added to the overall number of clerical workers. The ratio of operators to textile machines is not constant throughout the factories. It is worth mentioning that the volume of production from factories "C" and "D" is the same (although the quality is higher in "D"), despite the fact that there is a considerable difference in the number of employees in the two factories.

TECHNOLOGY

The level of technology also differs from factory to factory. The Firm started in operation in 1964, but the bulk of its purchases of machinery has taken place in the last 4 years. The purchase of new machines has been necessitated primarily because of the formation of a new unit and not for the re-structuring of production processes in existing units.

Textile machinery is purchased from Germany, Italy, Switzerland and Japan. The Company has "USTER" electronic checking, fault control, and production systems. In the fourth factory the open systems have robot control. The fourth factory is in fact a model automated unit from beginning to end of the production process. It has a centralised control system (remote control) and internal checking systems within each machine. There are no production lines for any of the processes. These exist only for the carding, and this is because more than one type of thread is produced. There is, however, a production line in the preliminary stages as well as a "linked system" on the spinning machines and bobbin holders.

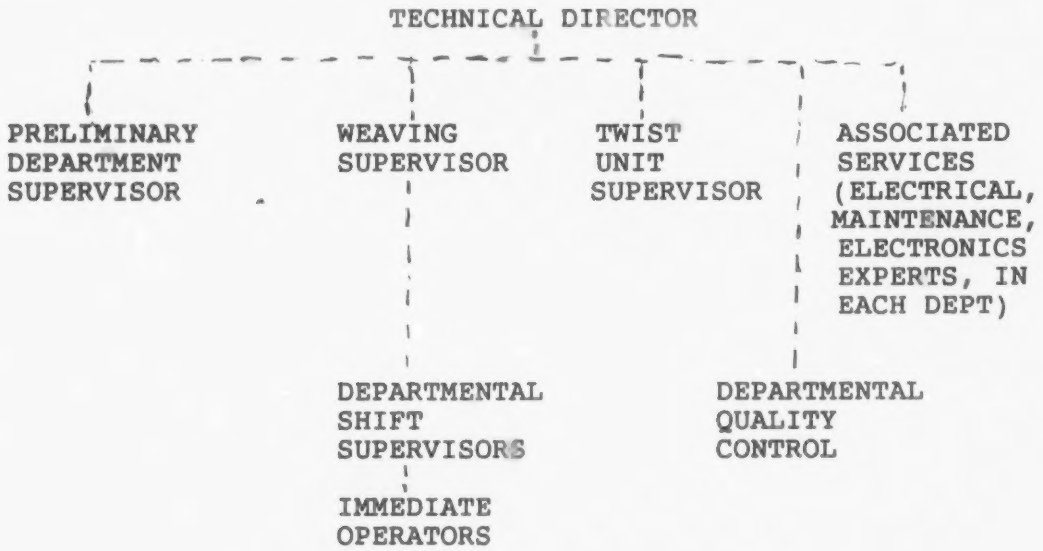
It was emphasised that, when new technology is imported, the levels of certain supervisory jobs will have to be re-assessed. Intermediate transfer and the employees used for this task will be discontinued. In addition, certain specialist jobs, although not ceasing completely, will be reduced in number throughout the factory. What is impressive, however, is the considerable increase in productivity: the figure of 6-7 kg/h using the old technology, has now risen to 25 kg/h using the new. It is therefore estimated that the investment in modern weaving equipment amounts to some 50 million drachmas per employee.

Where new technology is imported, technical problems involving installation, start-up and operation are resolved by foreign technicians, whilst all other problems are dealt with by Company personnel.

The foreign manufacturing houses cooperate with the Company either in supplying advisory services or by training Company personnel in Greece or at their machinery manufacturing establishments abroad. We should also point out that quality control is carried out independantly by each production department, from raw material stage, right through to the final product.

MIDDLE MANAGEMENT

The Company organisational plan is summarised in the following diagram:


TECHNICAL DIRECTOR
PRELIMINARY DEPARTMENT SUPERVISOR
WEAVING SUPERVISOR
TWIST UNIT SUPERVISOR
ASSOCIATED SERVICES (ELECTRICAL, MAINTENANCE, ELECTRONICS EXPERTS, IN EACH DEPT)
DEPARTMENTAL SHIFT SUPERVISORS
DEPARTMENTAL QUALITY CONTROL
IMMEDIATE OPERATORS

We note that the General Manager of the 4 factories comes from a foreign advisory Firm. The Departmental Supervisors are the Company's Higher Management, whilst shift supervisors, maintenance supervisors, electricians, electronics experts and those employed in quality control constitute the Company Middle Management. The departmental shift supervisors control the efficient operation of production within their departments. They keep the department supervisors informed about any problems involving quality during production and generally report to their superiors all technical and managerial problems, when they occur. Middle Management are also technicians, that is to say, they understand the machinery and are able to carry out maintenance and rectify faults that are not too serious.

We must add that the organisational plan in this super-automated fourth factory is significantly different: the tasks mentioned above are centralised. In fact, there is no prior division into production departments, - divisions reflect the volume of turnover. Thus we find the Technical Manager and his Assistant immediately followed by the Shift Supervisors. This means that Departmental Supervisors are missing and the importance of Shift Supervisors is increased.

In this Company Middle Management is involved in installation, technical organisation, and production programming, as well as engaging Staff, profits, incentives and Staff assessments and dismissals.

TRAINING LEVEL

According to their response to questionnaires in respect of training, Middle Management have completed some period at either Intermediate or Higher Technical College. There are a number of graduates of foreign Intermediate Technical Colleges. None of the basic employees has completed Technical School training.

The Company has a policy of in-house training in all aspects of production. Training takes place both at the place of work and also in a special area, during and also after working hours. Training is carried out by specialists in the subject after adequate periods of preparation. In accordance with the programme for re-defining specialisms, drawn up by the Company, instruction is organised for all personnel, whether clerical or production staff. For Middle Management there are the special subjects of quality control and maintenance of mechanical equipment. There is also instruction for non-specialist workers (loom pre-fitting, weaving, bobbin-work and twisting).

As the Company representative explained, Staff training is an on-going process. The employees also receive training through their own initiative. Likewise, foreign technicians from the Production Houses visit the Company in order to train the Staff. The Company technicians are also trained in factories abroad. Foreign "consultancy" Firms train and advise a large proportion of the managerial and technical Staff.

COMPANY "J"

Company "J" actually comprises a group of 3 enterprises which we will name J1, J2 and J3.

COMPANY "J1"

It produces imitation silks (rayon) and is the only producer of these in Greece. The processes involved are half chemical and half textile industry. It uses as its raw materials paper pulp and various chemical products. Its volume of production is in the region of 7,400 tonnes per year (1988) and 85% of this amount is intended for the foreign market. The quality of the product is identical for foreign and Home markets.

The factory covers a 90,000 sq m site and employs a total of 1,067 personnel. Of these there are 82 Shift Foremen, 13 Leading Hands, 157 Maintenance Technicians, 15 Production Supervisors, 65 managerial staff, storemen, accountants, etc. The direct workforce make up the remaining 740.

TECHNOLGY

The production process is continuous (because of this, the Firm has its own power supply system). The paper pulp goes through a continuing sequence of processes. It is transferred along vertical pipes through the 3 storeys of the factory.

We should point out here that production follows the logical configuration of the buildings, rather than a production process. The machinery in use ranges from very old up to the very latest technology. The Company believes that it is flourishing and makes frequent extensions and investments, chiefly in the textile processes.

The machinery originates from England, Germany, Italy and America. Checking systems using electronic means are limited. One example is the warping machine, which operates using photoelectric cells. The finishing process (after-elaboration) for synthetic silks has the most advanced technology.

Throughout the Company there is a tendency away from departmental production towards overall production. It is the opinion of the Company representative that the importation of new technology creates new specialisms, without the old ones being entirely dispensed with. New specialisms appear for example in the departments of after-elaboration and special checking, etc

Once again, the Company representative considers that the electronic mechanisms in modern machines require the whole Company to have a knowledge of electronics. He stated that the problem is especially pronounced where the machine-users have absolutely no knowledge of the subject. Despite this, all Staff play some part in solving technical problems, according to their positions and their abilities.

Foreign production houses supply information as well as technical assistance with any serious technical problems that occur. The checking department operates in respect of both the final product as well as at the various departmental stages of production.

MIDDLE MANAGEMENT

The Company organisational plan is summarised in the following diagram:

ORGANISATIONAL PLAN

SENIOR MANAGEMENT	DEPARTMENTAL MANAGERS	PRODUCTION,TECHNICAL
Higher Management	Heads of Departments	(Mechanics,electro-mechanical engineering, chemical engineering, electronics & advanced training)
Middle Management: Technical foremen, mechanical, carpentry	General departmental Supervisor	(Lyceum & Technical College graduates)
Electro-steam, Electronics, plastics etc	Shift Supervisors	(Former Elementary school & Lyceum graduates 90%)
	Work-force	(at least 200 hours training required before they can start production)

The Middle Management is partly responsibe for the installation of machinery. It takes part in technical organisation and production programming. It takes part in, and is responsible for regulating, maintenance, repairs, increasing productivity and organisation & division of Labour. The agreement of Middle Management is also needed in dismissals, recruitment etc.

TRAINING LEVEL

As is shown on the organisational plan, Middle Management foremen-technicians are graduates of Intermediate Technical School. Because, however, Company J1 is the only enterprise in Greece producing synthetic silk, it has to train all its Staff equally. This is done during working hours in a specially reserved area at the place of work, and also at seminars held at various times and places. It is noted that this Company does not send its Staff for training at foreign schools. It has regular instructors, who are usually experienced former employees and technicians. The training takes up at least 200 hours.

20-22% of Middle Management know a foreign language. The opinion held of Greek Technical College graduates is that they are of a very low standard.

We now give an example of some of the lessons included in the training programme for the whole Company involving textile industry procedures:

TRAINING FOR MIDDLE MANAGEMENT/TECHNICIANS

1. Electronic automation

    a. electric power
    b. electric automated checking systems
    c. general logistics & electric circuits
    d. micro-elaborators and micro-computers in automatic checking

2. Hygiene & Safety

    a. prevention of accidents
    b. verification of stages of work
    c. regulations for use of machinery
    d. personal safety measures
    e. security points

3. Information Technology

    a. computers - basics
    b. computer layout
    c. introduction to data-processing systems

4. Design

   a. basic rules of mechanical design
   b. setting tolerances/ adjustments by mechanical design
   c. demonstration of simple examples of mechanical design

5. Specialism in other technical matters

   a. importance of building up experience
   b. training on electronic instruments
   c. training in power & permanent sub-stations

COMPANY "J2"

The next Company we examined in this group is J2, which produces synthetic yarns from petroleum waste. Weaving processes are used here and petroleum waste and half-formed fibres are the raw materials. The volume of production is 7,000 tonnes per annum, 65% of which is intended for the export market.

330 personnel are employed in a covered 14 acre site. This number includes 20 Shift Supervisors, 20 foremen-technicians and 10 managerial Staff.

The Firm was established in 1969 and the machinery, which is all imported, was purchased in 1970 and the years following. This Company is equipped with high quality technology, the most modern of which are the stretching machines. Production here is a continuous process.

COMPANY "J3"

Company J3, which was founded in 1969, also produces synthetic yarns and is a chemical industry. It uses chemical products and petroleum waste as its raw materials and its volume of production amounts to 8,500 tonnes of synthetic yarn per annum.
50% of its production is intended for the export market.

A total of 192 persons are employed on the 12,000 sq m site. There are 10 Shift Foremen, 11 Charge-hands and other technicians, 3 Production Supervisors and 4 Managerial Staff.

Machinery has been purchased continually since 1971 to date, and the polymerisation department has the most modern technology.

The Company representative explained that the organisational plan, the training level, and training problems are identical to those of "J1". Training programmes are the same for the employees of all three concerns.

COMPANY "K"

Company "K" is located in the Boiotia wine-growing area and produces fabrics, pillow-cases, ready-made sheets, counterpanes and dish-cloths. It also has dyeing, dye-printing and fabric-finishing units with an overall production capacity of 100 million metres per annum, although at the moment it is only producing one million metres.

As its raw materials it uses cotton and synthetic yarns. The Firm employs a total of 30 persons, 9 of whom are Vietnamese.

TECHNOLOGY

The factory was started in 1982, but this was as a result of the move of the original factory from Piraeus. The textile machinery was purchased during the period 1971-1976. It is all electronic and the Company representative explained that its correct location within the factory reduces overall costs by 11%.

He also stated that there is no problem in reorganising production when new technology is imported. In this enterprise foreign technicians are responsible for solving all technical problems during installation, start-up, operation and regulation of the machinery.

MIDDLE MANAGEMENT & TRAINING LEVEL

The Managing Director of Production carries out the programming of the machines himself. He is an Elementary School graduate, but has a self-taught knowledge of all production matters from the yarn through to finishing-off. The Company representative explained that there is difficulty in finding responsible machine-operators in the area. They are usually employed for a short period of the year and then leave work. The area has a large number of gypsies, but they are illiterate, and neither responsible nor steady workers. The 9 Vietnamese (boat-people) employed in the Company are extremely capable and achieve an output 30-40% above production level.

Maintenance and repair of faults are dealt with by a mechanic, who is a graduate of Intermediate Technical College; a Chargehand; and a long-time electronics expert. However, the Firm's Managing Director has final responsibility for problems.

Cooperation between foreign supply houses and the Company is maintained by the Managing Director of Production. He has been attending seminars at foreign supply houses and chemical-producing industries (ICI, Bayer, Hoechst etc) for over 40 years, and personally looks after all matters concerned with dyeing.

Quality control is carried out on the final product. This is supervised by a young woman, who has been trained in the work. The Middle Management comprises two experienced technicians, a mechanic who is an Intermediate Technical College graduate, and an electronics expert, who is a graduate of Intermediate Technical College. A University Chemistry graduate attained the senior appointment a few months ago. The responsibilities of Middle Management comprise the control of the flow of production, repairs, and maintenance. Middle Management take no part in installing or regulating machines (1 & 2 of III 5a of the questionnaire), but they are involved in, and responsible for regulating as in 4 & 5. Technical and managerial matters, 6, 7 & 8, are undertaken by the Managing Director.

The Production Manager trains his own Staff. He expressed the opinion that graduates of Lower and Intermediate Technical Colleges nowadays have only very limited ability and that there was a need to reorganise the theoretical and practical training aspects of all specialist skills (weaving, fabrics, dyeing, knitwear etc) at both Intermediate and Higher levels. He also stated that immediate technical problems are largely solved by the visiting foreign technicians. However, technicians are also required, who can fully appreciate the problems of the textile industry, and have both the mental capacity and the flexibility to adapt to advances in technology and continuing changes in production and textile industry products.

COMPANY "L"

Company "L" is one of the largest in the ready-made clothes sector. It is located in Attica and has a work-force of 330 employees, 85 of whom are managerial Staff. It manufactures children's and men's jackets and trousers.

60% of total production is intended for export to Italy, France, Holland and Germany. These exports take the form of both "facon" and normal commercial goods.

The machinery in use is relatively modern technology, especially the presses. A "lectra" system is used for designing the garments. This does not have an automatic cutting facility, which the Company considers to be expensive, untested technology.

MIDDLE MANAGEMENT

The organisational plan of the Firm is very detailed compared with other textile industry concerns of similar size.

The Production Control Supervisor and his assistants (the Company's Middle Management) report to the Production Manager. They have the following tasks:

a. They arrange the budget for sales, purchase of raw materials, and the sequence of the production programme.

b. They carry out studies into garment-manufacturing methods (cloth-phase diagrams etc) and work-study i.e. ergonomic analysis.

c. They carry out studies into hours of work and arrange the ideal lengths of time for the various production phases.

The Technical Supervisor and the charge-hands (Middle Management) are responsible for production and direct the two production areas (trousers and jackets). They are responsible in general for carrying out the programmes, which the Production Control Department subsequently elaborates, and for ensuring that time-frames are conformed to.

Quality control is the responsibility of the Production Manager.

The Design Department (Lectra System) is the responsibility of the Sales Director, who operates in conjunction with the Production Manager. The designs are not originals. They are elaborations or modifications of foreign designs drawn by specially trained Staff.

The Supervisor and the Charge Hands (Middle Management) are responsible for maintenance and repairs in the machinery department.

The Production, sales, stores, finance and ADP Supervisors are all College graduates (ASOEE, Polytechnics etc). The Middle Management are graduates of Lyceums and not Technical Colleges.

According to the Company representative, Middle Management suffers not only from a deficiency of technical knowledge, but also from a lack of basic trade training, such as would enable them to make the simple mathematical calculations needed to formulate or analyse a production programme.

They also find difficulty in presenting and teaching a production programme to Staff. This is a matter which is dealt with abroad by specialist "job-trainers". The significant point is that this field embraces high-calibre work, where the demands in terms of human skill, dexterity and accuracy are considerably higher than in the textile industry.

Furthermore their lack of knowledge of costing matters, division of labour and "marketing" inhibit the necessary streamlining of the flow of production.

Training problems which occur in relation to mechanical equipment are solved by methods similar to those used in the textile industry Firms, namely:

a. Representatives of foreign firms train Production Supervisors and machine users. This is done on a larger scale than in the textile industry, because the cost of the machines is usually considerably lower than that of the textile industry machines and the cost of training an employee abroad is often consequently lower.

b. The foreign technicians are recalled to train and give initial technical briefing to Higher Management.

c. Higher and Middle Management are sent on visits to the foreign
Companies. The Company representative stated that if they are not accompanied by a senior grade, Middle Management are unable to evaluate their experience/ ..../abroad

abroad, because they do not speak any foreign language, nor are they capable of adjusting to the foreign environment in the short time available.

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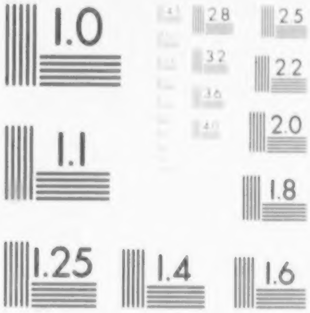
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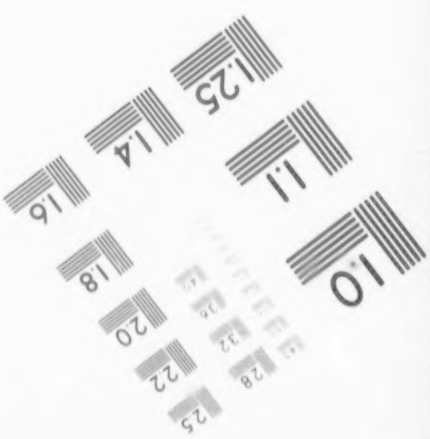
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COMPANY "M"

Company "M" was founded in 1987. Its factory is located in the Komotini industrial zone and it is one of the most modern vertically-integrated ready-made clothes enterprises in Greece.

The raw materials used are cotton and mixed yarns, which are, for the most part, imported. It comprises a weaving unit, a dye-works (high pressure jet overflow machinery), which is completely controlled by computer, and a quality control department, which is run totally in accordance with international specifications. The same also applies to the finishing unit.

The machines in the dye-printing works and the embroidery department are capable of producing sketches, photographing them, enlarging them and transferring them to silk-screens.

Cutting, sewing, finishing, pressing and packing are all carried out using the most up-to-date technology. All production departments are linked to a single mechanical printing system. Programming and production control are carried out by electronic means.
The tasks of the Middle Management in the production field are summarised below:

1. They carry out studies into work methods and are responsible for selecting the work method in accordance with the REFA (Methodslehre Arbeitstudium).

2. They organise programming and production control procedures and make contingency plans for any eventuality.

3. The Charge-hands/Supervisors on the production lines are usually female staff and are tasked with management of both personnel and machines. Their primary responsibility is deciding on production targets within the programming time-frame (weekly and monthly).

These female charge-hands are graduates of Elementary school or Gymnasium. They are selected according to the criteria that they are good tailoresses, young and clever enough to assimilate the programme, put it over, and adapt quickly whenever production changes are necessary.

Preventative quality control is carried out by Middle Management during the production phases as well as at the final stage. They are trained in quality control within the Firm.

The same applies with the stores.

None of the Middle Management is a graduate of Technical College (except for the electricians).

Both the Middle Management and the rest of the Staff are trained in-house during working hours in a special training hall.

Higher and Senior Management are treated differently, since they are all Higher or Senior School graduates. The contribution to factory work studies by Senior Staff, who are graduates of German High Schools was especially mentioned by the Company representative.

He also stated that by recruiting Higher and Senior Management Staff who had graduated from foreign colleges, the Company is able to use their knowledge of technology, which graduates of Greek schools lack. These Staff are particularly valuable as a means of maintaining contact abroad.

Since the Higher Management staff are used to train the rest of the personnel, specialist training as well as a knowledge of foreign languages are essential.

COMPANY "N"

Company "N" does not produce textile products. It is one of the oldest Companies importing textile industry machinery into Greece. Its representatives understand all aspects of the Greek textile market, especially the import rate of new technology.

According to the Company representative, 270-280,000 spinning-heads were installed in Greece between 1927 and 1969. This figure should be compared with an increase to approximately 600,000 spinning-heads during the period 1969-73. This high rate of increase in production has created very acute problems of narrow specialisation, especially amongst the actual operators. He estimated that from 1973 to date, 600,000 new spinning-heads had been installed. Of these about 100,000 are "open end" and 70-80,000 have automatic "doffing". In his experience this tends to suggest that the Greek Firms prefer to have independant checking systems, with an internal checking facility fitted to each machine, rather than a central checking system.

In the opinion of the Company representative Greek manufacturers tend to underestimate training problems associated with the importation of new technology. Rather than trying to organise suitable training programmes for their Staff, they tend to rely almost exclusively on the initial appearance of the supply Company representative, carrying out the installation and start-up of the machinery. Inevitably, however, the training services offered by the foreign representative are limited. To start with, he is unable to train more than a limited number of Greek technicians. These technicians then in their turn have to train the remainder of the staff, who are to use the machinery. He is certain that this training is insufficient to cover all the possible uses and aspects of the machinery. Even greater problems occur where maintenance and repair of the machinery are concerned.

The Company representative stated that the bigger problems occur during the machines' installation. He mentioned the need for skills in electronics and information technology in order to deal with both "hardware" and "software" problems. These skills were especially necessary when repairing faults. At the moment help from foreign technicians is called for when dealing with even simple faults. Apart from the considerable cost involved in a visit by a foreign technician, this also leads to extremely long breaks in production.

In addition to repairing faults, the Company representative also mentioned the need for correct preventative maintenance. In his experience it is not carried out correctly, either due to a lack of knowledge, or because its value is underestimated. This leads to machines being prematurely scrapped, and to a significant increase in faults and breakdowns.

The foregoing is attributable in part to the fact that electricians and mechanics from Greek Polytechnics have no knowledge of textile industry machinery and no idea of technological problems. Because of this, offers of Senior and Higher appointments are reserved for technicians who have studied abroad and who are often relatives of the owners.

On the other hand Lower and Middle Management have in the past been trained for the textile industry by SKYP, even if this training has not always been satisfactory.

In the opinion of the Company representative, internal training programmes are usually unsatisfactory, because many firms feel that they disrupt the flow of production.

He also stated that many small and medium-sized firms keep up with advances in technology by paying frequent visits to exhibitions of textile industry equipment. The view does not, therefore, hold good that these Firms show a typical lack of interest in technological development. However, their efforts are made more difficult by a lack of knowledge of foreign languages and technological awareness.

Finally, the Company representative mentioned the importance of installing modern air-conditioning, extractors and waste disposal systems. The absence of these systems causes serious problems at the looms and above all in the dyeing and finishing units. As well as a lack of awareness of the need to protect the environment, which is compounded by a national indifference, there has been no appraisal of the importance of these systems as a means of increasing productivity.

ANNEXE II

ANALYTICAL QUESTIONNAIRE

ANALYTICAL QUESTIONNAIRE

1. ABOUT THE COMPANY IN GENERAL

1. What products does your Company produce?
2. What production processes are followed?
3. What is the volume of production?
4. Size of factory in square metres.
5. What raw materials do you use?
6. What percentage of your production is intended:
    - (i) for export?
    - (ii) for the Home market? (Is the product quality identical for both markets?)
7. What is the total number of employees?
    - (i) overall
    - (ii) labourers/machine-operators
    - (iii) shift foremen
    - (iv) charge-hands
    - (v) other technicians
    - (vi) production managers or production supervisors
    - (vii) managerial staff
    - (viii) Foreign technicians & others
8. Number of machines in each process and ratio of machines/operators

II. TECHNOLOGY

1. During which of the following periods was the greater proportion of your Company's textile machinery (T.M.) purchased.
    - (i) 1960-65, 1967-79, 1971-75, 1976-80, 1981-85, 1986-88 ?
    - (ii) When did your Company start operating?

2. Is your textile machinery:
    - (i) imported?
    - (ii) if 'yes', from which country of origin?
    - (iii) was it purchased 2nd hand from Greek Firms?
    - (iv) if 'yes', from which Firms?

3. If you have advanced technology textile machinery, which sort is it?
    - (i) self-regulating textile machinery?
    - (ii) automatic fault correction?
    - (iii) control panels (remote control)
    - (iv) robotism etc

4.
    - (i) In which production departments is your most advanced technology?
    - (ii) Do you have production lines? If yes', into what phases are they divided?

5. Does the purchase of new machinery require a reorganisation of production ?

    (i) totally
    (ii) in certain departments - if 'yes', in which?

6. When new textile machinery is purchased, is there a tendency to dispense with certain specialist jobs?

    (i) YES - NO
    (ii) What new ones have been created and in which production departments?

7. Does new technology create more technical problems than the old?

    (i) Where do most technical problems occur:

        during installation
        starting-up/operation
        programming
        use
        maintenance
        repair of faults

    (ii) Which of your Staff resolve the problems when they occur?

        operators
        shift supervisors
        shift foremen
        charge-hands
        technical production managers
        foreign technicians
        others

8. Is there technical collaboration BETWEEN your Company and

    (i) a foreign firm supplying machinery ? - if 'yes', what form does it take?
    (ii) a Greek Firm. What does it comprise?

III. MIDDLE MANAGEMENT

1. Who make up the Middle Management in your Company?

    (i) Shift supervisors
    (ii) Shift foremen
    (iii) Charge-hands
    (iv) Other technicians - who?
    (v) Who is responsible for the night shift?

2. What are the tasks and responsibilities of Middle Management?

3. Does every production process and auxiliary task (maintenance, air-conditioning etc) have a separate supervisor?

4. To what extent is the maintenance of machinery carried out by Middle Management in your Company?

Middle Management: extent? Others: extent?

5. (a) Middle Management have:

RESPONSIBILITY FOR: INITIATIVE IN: PARTICIPATE IN:

1. INSTALLATION OF MACHINERY
2. TECHNICAL ORGANISATION/PRODUCTION PROGRAMMING
3. OPERATION OF/REGULATING MACHINERY
4. MAINTENANCE
5. REPAIR OF FAULTS
6. INCREASING PRODUCTIVITY
7. ORGANISATION & DIVISION OF LABOUR
8. ENGAGING STAFF, WAGES, INCENTIVES, STAFF ASSESSMENTS/DISMISSALS

(b) Who has the central responsibility for these matters?

6. Are foreign technicians involved in any of these matters? Yes or No. In which areas?

7. Are there differences between the salaries, incentives, and promotion prospects of Middle Management as compared with other Staff in your Company?

IV. TRAINING LEVEL

1. What are the training levels of:

1. SHIFT SUPERVISORS
2. SHIFT FOREMEN
3. CHARGE HANDS
4. OTHER TECHNICIANS

PRIMARY/SECONDARY/LOWER
INTERMEDIATE TECHNICAL COLLEGE: GREEK/FOREIGN
HIGHER: GREEK/FOREIGN
SENIOR: GREEK/FOREIGN
OAED SCHOOLS
ELKEPA SEMINARS/OTHER

2. Are there any graduates of Technical College etc among the other Staff ?

3. Is there a Company training policy for Middle Management?
   - (i) Yes/no
   - (ii) In what subjects?
   - (iii) How is it carried out?
     At place of work or special location
     During or outside working hours
     Who conducts the training?
     How long does training last?

4. Do the Middle Management know any foreign languages? Are they able to understand a technical document?

5. (i) In your opinion, in what matters are Middle Management deficient or totally ignorant in your Company?
   - (ii) Do you think that these areas can be covered at work and by the Company? In which areas can/cannot this be done?
   - (iii) In your opinion how can these deficiencies be covered?

6. What is your opinion of graduates of Greek Technical Colleges?

7. Do you consider the training given in existing technical schools is adequate? If not, in what does it fall short, and what areas are not covered?

8. Does your Company have a policy for training Middle and other technical Management outside Greece?
YES NO

9. How does your Company keep itself informed about developments in modern technology?

10. Does your Company have a quality control department?
   - (i) for products?
   - (ii) who performs this task?

11. Does your Company have an air-conditioning plant, humidifier, heating system, air-filtration, noise reduction system, etc. Who is responsible for the installation, regulation, operation, and control of the technical equipment? What qualifications do they have? What proportion of investment is spent on improvements to working conditions?

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N. Manolopoulos

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